INDEX OF AUTHORS' NAMES.

ABSTRACTS. 1902. Parts I. & II.

(Marked A. i and A. ii respectively); and also to Transactions, 1902 (marked T.); and to Proceedings, 1901—1902; Nos. 241 to 258, Nov., 1901—Dec., 1902 (marked P.).

COMPILED BY MARGARET D. DOUGAL.

A.

Abderhalden, *Emil*, hæmoglobin during the period of suckling, A., ii, 334.

—— influence of altitude on the composition of the blood, A., ii, 619, 671.

Abegg, *Richard*, apparatus for the demonstration and determination of ionic mobilities, A., ii, 194.

Abegg, *Richard*, and *Guido* **Bodländer**, electro-affinity as a basis for the systematisation of inorganic compounds, A., ii, 642.

Abegg, *Richard*, and *W.* **Gaus**, theory of the direct method of determining ionic velocities, A., ii, 442.

Abegg, *Richard*, and *H.* **Riesenfeld**, solubility of ammonia in salt solutions as measured by its partial pressure, I., A., ii, 309.

Achalme, *Pierre*, pathogenic properties of trypsin and the antitryptic power of guinea-pig's serum, A., ii, 96.

Ackermann, *Edwin*, on partial milking, A., ii, 168.

—— estimation of dry extract in wines, A., ii, 362.

—— variations in the composition of cows' milk during milking, A., ii, 466.

Ackroyd, *William*, the Marsh-Berzelius arsenic deposit, A., ii, 628.

Acree, *S. F.*, constitution of phenylurazole, A., i, 242.

Adams, *Maxwell*, hydroxylamine compounds, A., ii, 655.

Adeney, *Walter Ernest*, photographs of spark spectra. I. Ultra-violet spark spectra of iron, cobalt, nickel, ruthenium, rhodium, palladium, osmium, iridium, platinum, potassium chromate, potassium permanganate, and gold, A., ii, 57.

Adeney, *Walter Ernest*, studies in the chemical analysis of fresh and salt waters. Part I. Applications of the aëration method of analysis to the study of river waters, A., ii, 221.

Aders, *R. H.* See *Emil* **Fischer**, and *Carl* **Graebe**.

Adlung. See *Ernst* **Schmidt**.

Adrian, *L. Alphonse*, and *J. Auguste* **Trillat**, composition and volumetric estimation of sodium methylarsinate, A., ii, 588.

Ahrens, *Felix B.*, Conium alkaloids, A., i, 390.

Åkerberg, *Teodor*, velocity of electrolytic decomposition of oxalic acid in presence of sulphuric acid, A., ii, 488.

Aktien-Gesellschaft für Anilin-Fabrikation, thiazine colouring matters, A., i, 495.

—— phenazothionium salts, A., i, 496.

Aktien Gesellschaft für Theer- & Erd-Öl-Industrie, fluorene, A., i, 364.

—— separation of cyclic aromatic oxides or sulphides from coal tar hydrocarbons, A., i, 714.

Ålander, *A.*, the reaction of sodium thiosulphate with potassium permanganate, A., ii, 22.

Alberda van Ekenstein, *William*, and *Cornelis Adriaan Lobry de* **Bruyn**, isomerism of the β-naphthylhydrazones of the sugars, A., i, 747.

Alberda van Ekenstein, *William*. See also *Cornelis Adriaan Lobry de* **Bruyn**.

Albert, *Robert*, and *W.* **Albert**, chemical processes in the killed yeast cell, A. ii, 98.

Albert, *Robert*, *Eduard* **Buchner**, and *Rudolf* **Rapp**, preparation of permanent yeast with acetone, A., ii, 521.

Albo, *Giacomo*, product of condensation of butyric acid, A., i, 10, 200.

Aldrich, *T. B.*, adrenalin, A., ii, 518.
Alessandri, *P. E.*, detection of phosphorus in cases of poisoning, A., ii, 288.
Alexandroff, *D.* See *Nicolai D.* **Zelinsky**.
Allan, *F. B.*, sulphates of bismuth, A., ii, 401.
Allard, *Ed.*, detection of acetoacetic acid in urine, A., ii, 363.
Allard, *G.*, estimation of alkali persulphates, A., ii, 105.
Allen, *Charles.* See *Robert Howson* **Pickard**.
Allen, *Eugene T.*, and *V. H.* **Gottschalk**, oxides of tungsten, A., ii, 458.
Allen, *Lucius E.* See *George E.* **Hulett**.
Alliot, *Henri*, and *M. Emm.* **Pozzi-Escot**, estimation of diastases; colorimetric estimation of oxydases, A., ii, 588.
Allison, *John Raymond.* See *Arthur George* **Perkin**.
Aloy, *Jules* [*François*], uranium and its compounds, A., ii, 145.
—— action of bismuth oxide on various metallic solutions, A., ii, 360.
—— colour reaction of uranium salts with hydrogen peroxide, A., ii, 609.
—— calcium and magnesium in the dog, A., ii, 618.
Altenberg, *Fritz*, formation of free iodine from iodoform, A., ii, 158.
Alvisi, *Ugo*, researches on perchlorates; luteocobaltiammine perchlorates and observations on metallo-ammoniums, I., A., ii, 24.
Alway, *Frederick J.*, azoxybenzylidene bases, A., i, 649.
—— *p*-azoxybenzaldehyde, A., i, 697.
Alway, *Frederick J.*, and *Carey E.* **Vail**, preparation of aromatic guanidines, A., i, 838.
Amme, *Otto.* See *Heinrich* **Biltz**.
Ampola, *G.*, and *S.* **Jovino**, influence of iron on the combustibility of tobacco, A., ii, 470.
Anderson, *W. R.* See *Joseph William* **Mellor**.
Andouard, *Ambroise*, and *P.* **Andouard**, "white spirit," A., ii, 290.
André, *Gustave*, nutrition of plants at the expense of the cotyledons, A., ii, 99.
—— variations in the organic matter during germination, A., ii, 165.
—— effect of temperature on mineral absorption by etiolated plants, A., ii, 419.
—— transformations of proteids during germination, A., ii, 522.
André, *Gustave*, error in the estimation of xanthouric compounds caused by certain foods and medicaments, A., ii, 542.
—— migration in woody plants, A., ii, 624.
Andree, *Carl*, condensation of aldehydes with methylamine and ethylamine and reduction of the condensation products, A., i, 210.
Andrlík, *Karl*, *Vl.* **Staněk**, and *K.* **Urban**, alterations in the composition of the beet during ripening, A., ii, 526.
Angel, *Andrea*, and *Augustus George Vernon* **Harcourt**, observations on the phenomena and products of decomposition when normal cupric acetate is heated, T., 1385; P., **1902**, 185.
Angeli, *Angelo*, nitrogen acids, A., i, 78.
Angeli, *Angelo*, and *Francesco* **Angelico**, some nitrogen compounds, A., ii, 254.
Angeli, *Angelo*, *Francesco* **Angelico**, and *F.* **Scurti**, hydroxamic acid, A., i, 765.
Angelico, *Francesco.* See *Angelo* **Angeli**.
Angelis d'Ossat, *G. de*, minerals from Casal di Pari (in the Province of Grosseto, Italy), A., ii, 665.
Angelucci, *G.* See *Luigi* **Francesconi**.
Angerstein, *St.*, 4:6-dimethylpyrimidine, A., i, 123.
Annatò, *Charles*, detection of margarine in butter, A., ii, 113.
—— the sesamé oil reaction in butter analysis, A., ii, 113.
Anselmino, *Otto*, derivatives of phenol bromides, A., i, 215.
—— third tribromide of ψ-cumenol, A., i, 286.
Anselmino, *Otto.* See also *Karl* **Auwers**.
Antipoff, *J. A.*, zincite from Poland, A., ii, 510.
—— a uranium mineral resembling voglite, A., ii, 510.
Antony, *Ubaldo*, estimation of sulphur and phosphorus in iron and steel, A., ii, 47.
—— formation of dithionic acid, A., ii, 651.
Antony, *Ubaldo*, and *G.* **Magri**, cause of the brown coloration of ammonium sulphide in presence of a nickel salt, A., ii, 24.
Antony, *Ubaldo*, and *E. di* **Nola**, determination of the calorific power of fuels, A., ii, 4.
Antony, *Ubaldo*, and **Paoli**, oxidisability of chromic hydroxide, A., ii, 661.
Appelius, *W.*, estimation of hardness in water, A., ii, 232.
Archangelsky, *C.*, physiological action of chloral hydrate and acetone, A., ii, 36.

Archetti, *Andrea*, action of light, A., ii, 485.
—— estimation of hydrocyanic acid, A., ii, 538.
Archibald, *Ebenezer Henry*. See *Theodore William* **Richards**.
Armingeat, *P.* See *Georges* **Darzens**.
Armstrong, *Edward Frankland*. See *Emil* **Fischer**, and *Jacobus Henricus van't* **Hoff**.
Armstrong, *Henry Edward*, Frankland memorial lecture, P., **1901**, 193.
—— conditions determinative of chemical change and of electrical conduction in gases, and on the phenomena of luminosity, A., ii, 546.
—— classification of the elements, A., ii, 553.
Armstrong, *Henry Edward*, and *Edward* **Horton**, the part played by residual affinity in the formation of substitution derivatives; the orienting influence of sulphur, P., **1901**, 246.
Armstrong, *Henry Edward*, and *Thomas Martin* **Lowry**, studies of the terpenes and allied compounds; the sulphonation of camphor. I. Camphorsulphonic acid (Reychler); the formation of anhydramides, T., 1441; P. **1901**, 182.
—— —— studies of the terpenes and allied compounds; the sulphonation of camphor. II. β-Bromocamphor and its derivatives; β-bromocamphoric acid, T., 1462; P., **1901**, 217, 244.
—— —— studies of the terpenes and allied compounds; the sulphonation of camphor. III. The optical inversion of camphor and the mechanism of hetero- and meso-sulphonation, and of homo- and hetero-bromination, and of dehydration, T., 1469.
—— —— persulphuric acids, A., ii, 558.
Arnaud, *Albert*, constitution of tariric acid, A., i, 342.
—— dioxytariric and ketotariric acid, A., i, 343.
—— products of decomposition of aminotariric acids, A., i, 428.
Arnd, *Thankmar*. See *Heinrich* **Biltz**.
Arndt, *Kurt*, neutral salts, A., ii, 62.
—— velocity of decomposition of ammonium nitrite, A., ii, 64.
—— titration of free alkali in presence of nitrites, A., ii, 630.
Arndts, *Joseph*. See *Emil* **Knoevenagel**.
Arnold, *Carl*, and *M.* **Behrens**, yohimbine, A., i, 233.
Arnold, *Carl*, and *Curt* **Mentzel**, reactions for ozone, A., ii, 352, 691.
—— —— detection of arsenic, A., ii, 354.
Arnold, *Carl*, and *Curt* **Mentzel**, rapid detection of formaldehyde in foods, A., ii, 367.
—— —— a sensitive test for the detection of formaldehyde, A., ii, 480.
—— —— detection of heated milk by means of the guaiacum test, A., ii, 539.
—— —— preparation of ozone, A., ii, 650, 691.
—— —— improved reactions and methods of preparation of ozone; ursol D as a reagent for ozone, A., ii, 691.
Arnold, *Emil*. See *Conrad* **Willgerodt**.
Arnold, *W.* See *Albert* **Edinger**.
Arnstein, *Robert*, estimation of acidity in urine, A., ii, 158.
Arsandaux, *H.*, analyses [of dolomite, ankerite, forsterite, and titanomagnetite], A., ii, 329.
—— [lepidolite] from Brassac (Tarn), A., ii, 331.
—— composition of the magma at different stages of an eruption, A., ii, 409.
Arsonval, *Arsène d'*, production and maintenance of low temperatures, A., ii, 122.
—— liquid air, A., ii, 650.
Arteaga, *Julius F.*, phloridzin diabetes in cats, A., ii, 38.
Arth, *Georges*, barium aluminate employed as a disencrusting agent, A., ii, 399.
Asch, *Wladislaw*, silicomolybdates, A., ii, 83.
Aschan, [*Adolf*] *Ossian*, genesis of naphthenes and naphthenecarboxylic acids, A., i, 749.
Aschman, *Camille*, estimation of total phosphoric acid in basic slags, A., ii, 627.
Ascoli, *G.*, blood analysis in relation to metabolism, A., ii, 33.
Ashley, *Harrison Everett*. See *Henry* **Fay**.
Asō, *Keijirō*, amount of lime contained in phanerogamic parasites, A., ii, 684.
—— influence of different ratios of lime and magnesia on the development of plants, A., ii, 689.
Astruc, *A.*, alkalimetric estimation of disodium methylarsenate (arrhenal), A., ii, 370.
Atkinson, *Ernst*. See *Carl D.* **Harries**.
Aubel, *Edmond van*, indices of refraction of mixed liquids, A., ii, 373.
—— Maxwell's law, $n^2=K$, for some compounds containing nitrogen, A., ii, 373.
Aubert, *A. B.*, oil of milfoil, A., i, 810.

Auchy, *George*, estimation of silicon in steel, A., ii, 174.
—— estimation of molybdenum in steel, A., ii, 430.
Auger, *Victor*, glycero-arsenic acid, A., i, 255.
—— arsenic oxide and its hydrates, A., ii, 393.
Auld, *Samuel James Manson*. See *John Theodore* **Hewitt**.
Aumann, manurial experiments with potassium on sugar beet in 1900, A., ii, 581.
Austin, *Martha*, double ammonium phosphates in analysis, A., ii, 697.
Autenrieth, *Wilhelm*, behaviour of morphine and strychnine in putrefying corpses, A., ii, 368.
—— salts of chromic and dichromic acids, A., ii, 457.
Autenrieth, *Wilhelm*, and *Hans* **Barth**, oxalic acid in urine, A., ii, 575.
Autenrieth, *Wilhelm*, and *R.* **Hennings**, cyclic compounds containing sulphur, A., i, 389.
Autenrieth, *Wilhelm*, and *P.* **Rudolph**, interaction of aliphatic disulphonic chlorides and aromatic amino-compounds, A., i, 22.
Auwers, *Karl*, the so-called isoamides and true amides, A., i, 14.
—— ψ-phenols, A., i, 146.
—— ψ-quinols and cyclic nitroketones, A., i, 217.
—— nitroketone and ψ-quinol of dibromo-*p*-cresol, A., i, 217.
Auwers, *Karl*, and *Otto* **Anselmino**, constitution of the second ψ-cumenol tribromide, A., i, 214.
Auwers, *Karl*, and *Ludwig* **Huber**, ψ-phenols from salicylaldehyde and salicylic acid, A., i, 213.
Auwers, *Karl*, and *Otto* **Müller**, bromides of eugenol and of isoeugenol, A., i, 212.
Auwers, *Karl*, *Curt* **Schumann**, [and, in part, *Josef* **Broicher**], nitro- and thiocyano-ψ-phenols and cyanophenols, A., i, 147.
Auwers, *Karl*, and *Albert* **Sigel**, constitution of oxidation products from halogenated ψ-phenols, A., i, 216.
Auwers, *Karl*, and *Friedrich* **Winternitz**, cyclic ketones from chloroform and phenols, A., i, 218.
Auzenat, *R.*, estimation of sulphur in iron pyrites, A., ii, 104.
Avery, *Samuel*, [with *Hal T.* **Beans**, *M. C.* **Gere**, and *H. C.* **Parmelee**], aromatic glutaric acids, A., i, 679.
Aweng, *Eugen*, double glucoside of frangula bark, A., i, 725.
Aweng, *Eugen*, soluble hydroxyanthraquinone-glucoside contained in Barbados aloes, A., i, 814.

B.

Bach, *A.*, mechanism of action of hydrogen peroxide on permanganic acid, A., ii, 81.
—— existence of higher hydrogen peroxides, A., ii, 203.
—— action of chromic acid on hydrogen peroxide, A., ii, 251.
Bach, *A.*, and *Robert* **Chodat**, function of peroxides in cell-life, A., ii, 522.
Bach, *A.* See also *Robert* **Chodat**.
Badische Anilin- & Soda-Fabrik, mono- and di-alkylated aromatic amines, A., i, 91.
—— preparation of β-naphthylamine derivatives, A., i, 91.
—— substituted thiocyanates of the *op*-dinitrohydroxydiphenylamines, A., i, 93.
—— stable carbonyl derivatives of indigo-white, A., i, 96.
—— ethereal carbonyldiphenylglycinates, A., i, 101.
—— condensation products from the diaminoanthraquinones and formaldehyde, A., i, 119.
—— condensation products of 1:8-naphthylenediamine and its derivatives with acetone, A., i, 124.
—— [4-nitro-2-aminophenol-6-sulphonic acid], A., i, 282.
—— phenolic sulphurous esters, I. and II., A., i, 366.
—— polychlorodiaminoanthraquinones, A., i, 382.
—— oxidation of the methyl groups of aromatic hydrocarbons, A., i, 432.
—— ethereal ω-cyanomethylanthranilates, A., i, 451, 718.
—— acyl derivatives of diethyl phenylglycine-*o*-carboxylates, A., i, 452.
—— [6:6′-dichloroindigotin], A., i, 458.
—— conversion of nitroanthraquinone derivatives into substituted bromoaminoanthraquinones, A., i, 475.
—— bromo-β-aminoalizarin, A., i, 477.
—— [2:6-dinitro-4-chloro-*pp*-dihydroxydiphenyl-*m*-phenylenediamine], A., i, 497.
—— blue colouring matter of the anthracene series, A., i, 721.
Baeyer, *Adolf von*, and *Eduard* **Knorr**, the methyl ethers of the true nitrosophenols; *o*-nitrosophenol, A., i, 766.
Baeyer, *Adolf von*, and *Victor* **Villiger**, basic properties of oxygen, A., i, 112, 355.

Baeyer, *Adolf von*, and *Victor* **Villiger**, dibenzylideneacetone and triphenylmethane; a contribution to the theory of dyes, A., i, 380, 769.
—— —— triphenylmethane and concentrated sulphuric acid, A., i, 534.
—— —— ozonic acid, A., ii, 650.
Baezner, *C.* See *Fritz* **Ullmann**.
Bailhache, *G.*, the number of the blue oxides of molybdenum, A., ii, 144.
Baker, *Herbert Brereton*, the union of hydrogen and oxygen, T., 400; P., **1902**, 40.
Baker, *Julian Levett*, the action of ungerminated barley diastase on starch. Part I., T., 1177; P., **1902**, 134; discussion, P., 135.
Bakhuis Roozeboom, *H. W.* See **Roozeboom**.
Bakunin, *Marussia*, esterification of acids with phenols, A., i, 370.
Balbiano, *Luigi*, hydrolysis of glyceryl tribenzoate, A., i, 450.
—— isomeric lactonic acids derived from $\beta\gamma\gamma$-trimethyl-β-hydroxypentanedioic acid, A., i, 741.
Balbiano, *Luigi*, [with *Mario* **Palladini**], Italian petroleum, A., ii, 567.
Balbiano, *Luigi*, and *Vincenzo* **Paolini**, [detection of olefines in light petroleums], A., ii, 109.
Balbiano, *Luigi*, and *Vincenzo* **Paolini**, [with *E.* **Luzzi** and *A.* **Nardacci**], oxidations with mercuric acetate, A., i, 808.
Ball, *Walter Craven*, a new colour reaction of hydroxylamine, P., **1902**, 9.
Baly, *Edward Charles Cyril*, and *Frederick George* **Donnan**, the variation with temperature of the surface energies and densities of liquid oxygen, nitrogen, argon, and carbon monoxide, T., 907; P., **1902**, 115.
Bamberg, *Paul*. See *Martin* **Freund**.
Bamberger, *Eugen*, esters of nitronic acids [isonitro-compounds], and arylazoaldoximes, A., i, 246.
—— action of alcoholic potassium hydroxide or formaldehyde on nitrosobenzene, A., i, 279.
—— Voswinckel's triazan derivatives, A., i, 321, 577.
—— spontaneous decomposition of nitrosobenzene, A., i, 505.
—— hydroxyazoxybenzenes, A., i, 505.
—— action of hydrazine bases on quinols [ψ-quinols]; notes on the history of "quinols," A., i, 509.
—— phenylazoacetaldoxime and Voswinckel's triazan derivatives, A., i, 577.
Bamberger, *Eugen*, and *Walther* **Bernays**, synthesis of *p*-hydroxyazoxybenzene, A., i, 506.
Bamberger, *Eugen*, and *Ed.* **Demuth**, constitution of anthranil, A., i, 95.
—— —— conversion of *o*-aziminobenzaldehyde into anthranil, A., i, 127.
—— —— oxime of *o*-azidobenzaldehyde [*o*-triazobenzaldehyde], A., i, 650.
Bamberger, *Eugen*, and *Henry* **Destraz**, conversion of arylhydroxylamines into diarylcarbamides; arylmethylenehydroxylamines, A., i, 538.
Bamberger, *Eugen*, and *Johannes* **Frei**, action of hydrogen chloride on arylazoacetaldoximes, A., i, 248.
—— —— alkylation of phenylazoacetaldoxime, A., i, 324.
—— —— reduction of nitroaldehyde hydrazones, A., i, 404.
Bamberger, *Eugen*, and *Jacob* **Grob**, ester of phenylazoethylidenenitronic acid and phenylazoacetaldoxime, A., i, 247.
Bamberger, *Eugen*, and *Adolf* **Rising**, molecular weight of nitrosoaryls, A., i, 88.
Bamberger, *Eugen*, and *Leo* **Rudolf**, dimethylaniline oxide, A., i, 364.
Bamberger, *Eugen*, and *Ernst* **Rüst**, transformation of nitroparaffins, A., i, 197.
Bamberger, *Eugen*, and *Fred.* **Tschirner**, oxidation of methylenebisaniline, A., i, 276.
Bamberger, *Eugen*, and *Michael* **Vuk**, oxidation of methyl- and ethyl-aniline, A., i, 275.
Bamberger, *Eugen*, and *E. W.* **Wheelwright**, action of diazobenzene on ethyl acetoacetate, acetoacetic acid, and ethyl benzeneazoacetoacetate, A., i, 406.
Bamberger, *Eugen*, and *Hugo* **Witter**, formazyl phenyl ketone, A., i, 406.
Bamberger, *Max*, and *Fritz* **Böck**, nitrocompounds of anthragallol, II. and III., A., i, 30.
Bambridge, *F. A.*, formation of lymph by the liver, A., ii, 414.
Bancroft, *Wilder Dwight*, synthetic analysis of solid phases, A., ii, 495.
—— limitations of the mass law, A., ii, 496.
Bandrowski, *Ernst*, and *A.* **Prokopeczko**, action of hydrogen chloride on diphenyl-*p*-azophenylene, A., i, 330.
Bang, *Ivar*, nucleo-histon, A., ii, 36.
Banning, *Friedrich*, formation of oxalic acid by Bacteria, A., ii, 469.
Barbier, *Henri*. See *Auguste* **Lumière**.
Barbieri, *N. Alberto*, analysis of nervous tissue, A., ii, 618.

Barcroft, *Joseph*, and *John Scott* **Haldane**, estimation of oxygen and carbon dioxide in small quantities of blood, A., ii, 424.

Bardach, *Bruno*, Stukowenkow's method for the estimation of mercury in urine, A., ii, 532.

Bardswell, *Noel D.* See *Francis W.* **Goodbody.**

Barger, *George*, saponarin, a new glucoside from Saponaria, A., i, 387.

Barillé, *A.*, calcium carbophosphate, A., ii, 258.

—— analysis of *Piper fumechoni* or Kissi powder, A., ii, 578.

Barnes, *H. T.*, and *H. L.* **Cooke**, inversion of zinc sulphate, A., ii, 486.

Barnes, *James*. See *Harry Clary* **Jones.**

Barnstein, *F.*, rye and wheat, A., ii, 525.

Barral, *Étienne*, action of oxidising agents on pentachlorophenol, A., i, 367.

—— transformation of pentachlorophenol into tetrachloroquinone, A., i, 367.

Barrett, *W. Fletcher*, increase of electrical resistivity caused by alloying iron with various elements, and the specific heat of those elements, A., ii, 377.

Barschall, *Hermann*. See *Franz* **Sachs.**

Barth, *Ad.* See *Arthur* **Hantzsch.**

Barth, *Hans*. See *Wilhelm* **Autenrieth.**

Barthe, *Léonce*, a criticism of the classical method employed for the separation of traces of arsenic and antimony, A., ii, 290.

—— presence of arsenic in glycerol, A., ii, 703.

Bartolotti, *Pietro*, and *Adolfo* **Linari**, synthesis of two benzoylxylenols, A., i, 792.

Barus, *Carl*, effect of temperature and moisture on the emanation of phosphorus, and a distinction in the behaviour of nuclei and of ions, A., ii, 59.

Baschieri, *A.*, action of oxidising agents on acetylene, A., i, 197.

Bashford, *Ernest F.*, toxic and antitoxic action *in vitro* and *in corpore*, A., ii, 277.

Bashford, *Ernest F.*, and *Wilhelm* **Cramer**, the synthesis of hippuric acid in the animal organism, A., ii, 574.

Baskerville, *Charles*, new element associated with thorium, A., ii, 85.

Baskerville, *Charles*, [with *Lionel* **Weil**, and *Isaac F.* **Harris**], combination of sulphates with hydrogen chloride, A., ii, 208.

Basler Chemische Fabrik, preparation of *o*-benzoicsulphinide ("saccharin") and other aromatic sulphonamides, A., i, 96.

—— toluene-*o*-sulphonic chloride and the *o*-sulphonic chlorides of ethereal benzoates, A., i, 363.

—— preparation of aromatic sulphinic acids, A., i, 715.

—— preparation of anthranilic acid, A., i, 718.

—— phthalylhydroxylamine, A., i, 720.

Bassett, *Henry, jun.* See *Frederick George* **Donnan.**

Batschinski, *Alexius*, an extension of the idea of the critical constants, A., ii, 444.

Battelli, *Angelo*, researches on Boyle's law at low pressures, A., ii, 244.

Bau, *Arminius*, melibiose, A., i, 347.

Baud, *E.*, compounds of aluminium chloride with the alkali chlorides, A., ii, 142.

—— compounds of anhydrous aluminium chloride with hydrogen sulphide, A., ii, 505.

Baudin, *L.*, thermometer of light petroleum, A., ii, 194.

Bauer, *Richard*, action of superheated steam on keratin, A., i, 846.

Bauer, *Rudolph*, and *Alfred* **Einhorn**, reduction of *m*-aminobenzoic acid, A., i, 224.

Bauer, *Wilhelm*. See *Gustav* **Heller.**

Baumann, *Anton*, action of potassium manures on peat land, A., ii, 689.

Baur, *E.*, reduction-potential of aldehydes, A., i, 77.

—— the nitrogen-hydrogen gas element, A., ii, 239.

—— cerium peroxide, A., ii, 398.

Bay, *B.* See *Adolf* **Pinner.**

Bayer & Co., *Friedr.* See **Farbenfabriken vorm.** *Friedr.* **Bayer & Co.**

Bayliss, *William Maddock*, and *Ernest Henry* **Starling**, the mechanism of the so-called peripheral reflex secretion of the pancreas, A., ii, 275, 613.

Beans, *Hal T.* See *Samuel* **Avery.**

Beardsley, *Alling P.* See *Henry Lord* **Wheeler.**

Beccari, *Lodovico*, hydramides and their reactions with ethyl cyanoacetate, A., i, 375.

Bechhold, *Heinrich*, phosphoric acid esters from egg-albumin, A., i, 331.

Beck, *P.*, modification of Schumann's apparatus for estimating the specific gravity of cement, A., ii, 106.

—— examination of mixtures of Portland cement and slag meal, A., ii, 106.

Becker, *Ernst*. See *Otto* **Fischer.**

Becker, *Hans*. See *Friedrich* **Kehrmann**.
Beckmann, *Ernst* [*Otto*], estimation of fused oil in alcoholic liquids, A., ii, 178.
—— honey dextrin, A., ii, 180.
—— determination of molecular weights. V. Further development of the boiling point method, A., ii, 303.
—— lamps for spectra, IV., A., ii, 373.
Beckstroem, *R.* See *Hans* **Thoms**.
Beckurts, *Heinrich*, and *Gustav* **Frerichs**, thiocyanoacetic acids and thiofatty anilides, A., i, 763.
Becquerel, [*Antoine*] *Henri*, chemical effects produced by radium radiations, A., ii, 57.
—— radioactivity of uranium A., ii, 117.
—— some properties of the radiations from radioactive bodies, A., ii, 238.
Bednarski, *Boleslaw*. See *Augustin* **Wróblewski**.
Beebe, *S. P.*, influence of heat on enzymes, A., i, 655.
Beger, *C.*, methods of fat estimation in fodders, A., ii, 367.
Beger, *C.*, *P.* **Doll**, *G.* **Fingerling**, *E.* **Hancke**, *H.* **Sieglin**, *W.* **Zielstorff** and *August* **Morgen**, feeding experiments with milch-sheep and goats, on the effect of fat on the amount and composition of the milk, A., ii, 101.
Beger, *C.*, and *H.* **Wolfs**, application of Gerber's method of fat estimation to sheep's milk, A., ii, 482.
Behaghel, *Wilhelm*, and *Eduard* **Buchner**, pyrazole-4-carboxylic acid from 4-phenylpyrazole, A., i, 236.
Béhal, *Auguste*, constitution of campholenic and nitrocampholenic acids, A., i, 419.
Behrend, *Paul*, and *H.* **Wolfs**, analysis of butter fat and the relation between the various constants of the same, A., ii, 708.
Behrend, *Robert*, and *Richard* **Grünewald**, oxidation of methyluracil, A., i, 834.
Behrend, *Robert*, and *Hermann* **Schreiber**, ethyl bromo- and chloroaminocrotonates, A., i, 14.
Behrend, *Robert*, and *Richard* **Thurm**, constitution of the alkyl derivatives of methyluracil and ϑ-methyluric acid, A., i, 832.
Behrend, *Robert*. See also *Wilhelm Heinrich* **Behrens**, and *Georg* **Wollers**.
Behrendt, *E. C.* See *Iwan* **Koppel**.
Behrens, *M.* See *Carl* **Arnold**.
Behrens, *Theodor Heinrich*, metals of the cerium group, A., ii, 79.
Behrens, *Theodor Heinrich*, detection of the principal impurities of anthracene, A., ii, 631.
—— microchemical detection of alkylamines, A., ii, 634.
Behrens, *Wilhelm Heinrich*, and *Robert* **Behrend**, study of bisnitrosylbenzyl and the bye-products obtained in its formation, A., i, 752.
Beljankin, *Dmitri*, allotropy of tellurium, A., ii, 134.
Bellamy, *Henry F.*, production of the tryptic ferment from its zymogen, A., ii, 153.
Bellucci, *Italo*, platinum tetraiodide, A., ii, 267.
Bemmelen, *Jacobus Martinus van*, influence of high temperature on the texture of the hydrogel of silicic acid, A., ii, 70.
Bémont, *Gustave*, fermentation amyl alcohol, A., i, 131.
Bender, *Carl*, refraction of normal salt solutions, A., ii, 437.
Bendix, *Ernst*, formation of glycogen from proteid, A., i, 511.
Benedicks, *Carl*, electrical resistance of steel and pure iron, A., ii, 439.
Benedict, *Francis Gano*, excretion of nitrogen during nervous excitement, A., ii, 218.
Benedict, *Francis Gano*, and *Charlotte R.* **Manning**, chemical method for obtaining vacua, A., ii, 449.
Bennett, *C. T.* See *John C.* **Umney**.
Benöhr, *Otto*, *s.-op*-diaminobenzophenone, A., i, 435.
Benoist, *Louis*, law of transparency of matter for X-rays, A., ii, 191.
Benson, *Gideon*, and *Homer Winthrop* **Hillyer**, action of benzoyl chloride on ammonium thiocyanate, A., i, 27.
Benz, *Emil*, estimation of thorium in monazite sand, A., ii, 431.
Benzian, *R.* See *Th.* **Fischer**.
Béranger, *L.* See *Paul* **Freundler**.
Berend, *Ludwig*, and *Fritz* **Heymann**, 3:5-dinitroacetophenone and its derivatives, A., i, 470.
Berg, *Eduard von*, rubidium and cæsium phosphates, A., ii, 136.
Berg, *Georg*, caledonite from Chili, A., ii, 331.
Bergmann, *W.*, excretion of phosphoric acid in flesh and vegetable feeders, A., ii, 276.
Bernard, *Maurice*, lecithins, A., ii, 415.
—— chemical analysis of wine, A., ii, 433.
Bernays, *Walther*. See *Eugen* **Bamberger**.

Bernheimer, *Oscar*, and *F.* **Schiff**, Japan tallow, A., ii, 294.
—— —— estimation of Prussian blue in spent gas-purifying material, A., ii, 361.
Berntrop, *Johan Conrad*, detection of traces of arsenic in articles of food, A., ii, 225.
—— estimation of fat in bread and determination of the nature of the fat, A., ii, 366.
Berthelot, *Daniel*, boiling point of selenium and other pyrometric constants, A., ii, 378.
Berthelot, *Marcellin* [*Pierre Eugène*], congratulatory address to, P., **1901**, 250.
—— studies on neutralisation; colorimetric titrations of acids and bases having complex functions, A., i, 199.
—— acetylenoid metallic radicles, A., i, 208.
—— heat developed by the action of oxygen on alkaline pyrogallol, A., ii, 4.
—— chemical reactions produced by radium, A., ii, 18, 136.
—— action of hydrogen peroxide on silver oxide, A., ii, 18, 207.
—— the employment and sensibility of litmus extract, A., ii, 222.
—— neutralisation of phosphoric acid, A., ii, 255.
—— reactions of two basic oxides exposed simultaneously to the action of phosphoric acid, A., ii, 255.
—— phosphoric acid and chlorides of the alkaline earths, A., ii, 255.
—— formation of insoluble phosphates by double decomposition: disodium phosphate and silver nitrate, A., ii, 256.
—— chemical equilibria; ammonium phosphates and barium chloride, A., ii, 258.
—— chemical equilibria: ammonium phosphate and magnesium chloride, A., ii, 258.
—— analysis of antique metallic articles, A., ii, 261.
—— elements founded on the reciprocal action of oxidising and reducing liquids; common solvents; action of acids and bases, A., ii, 375, 376, 546.
—— elements founded on the co-operation of a reaction between salts with the reciprocal action of oxidising and reducing liquids, A., ii, 376.
—— analysis of an antique vase from Abou-Roach, A., ii, 397.
—— influence of the sun on the vine and other plants, A., ii, 421.
Berthelot, *Marcellin* [*Pierre Eugène*], some phenomena of voltaic polarisation, A., ii, 439.
—— researches on electromotive force, A., ii, 440.
—— method for establishing the electrolytic action of a pile, A., ii, 440.
—— researches on elements founded on the reciprocal action of two liquids, A., ii, 546.
—— evident electrolytic actions developed by elements constituted by the reactions between two liquids, one containing an acid, the other an alkali, A., ii, 547.
—— relation between current intensity and manifestation of electrolysis, A., ii, 591.
Bertolo, *P.*, reduction of artemisin by means of stannous chloride, A., i, 814.
Bertram, *W.*, di-*o*-nitrodiphenylmethane and di-*o*-nitrobenzophenone, A., i, 436.
Bertrand, *Gabriel*, extraction of boletol, A., i, 220.
—— transformation of glycerol into sugar by testicular tissues, A., ii, 159.
—— blue coloration of certain mushrooms, A., ii, 166.
—— the presence of arsenic in normal animal organs, A., ii, 517.
—— venom of the common toad, A., ii, 576.
—— detection of very small quantities of arsenic, A., ii, 694.
Bertrand, *Gabriel*. See also *C.* **Phisalix**.
Berwerth, *Friedrich*, analyses of jadeite axes, A., ii, 214.
—— meteoric stone from Zavid, Bosnia, A., ii, 570.
Besredka, natural anti-hæmolysins, A., ii, 94.
Bethe, *Albrecht*, some educts from horse's brain, A., ii, 676.
Betti, *Mario*, synthesis of α-naphthoisoxazine derivatives, A., i, 57.
Bettink, *Hendrik Wefers*, reaction for mannitol, A., ii, 235.
Bevan, *P. V.*, some phenomena connected with the combination of hydrogen and chlorine under the influence of light, A., ii, 237.
Beyerinck, *Martinus Willem*, the lactic ferments in the arts, A., ii, 97.
Beythien, *Adolf*, estimation of boric acid in margarine, A., ii, 696.
Beythien, *Adolf*, and *Paul* **Bohrisch**, [estimation of sulphurous acid in dried fruits], A., ii, 472.
Bial, *Manfred*, antiseptic function of the hydrogen ions of dilute acids, A., ii, 447.

Bial, *Manfred*, conjugated glycuronic acids in normal fæces, A., ii, 679.
—— diagnosis of pentosuria, A., ii, 703.
Bial, *Manfred*, and *O.* **Huber**, conjugated glycuronic acids in normal fæces, A., ii, 679.
Bialon, *O.*, action of anisaldehyde on quinaldine, 2-picoline, and 2-methyl-5-ethylpyridine, A., i, 828.
Bibergeil, *Arthur*. See *Otto* **Diels**.
Biddle, *Henry C.*, reduction of copper by solutions of ferrous salts, A., ii, 18.
Biedl, *Arthur*, and *Heinrich* **Winterberg**, the ammonia removing function of the liver, A., ii, 157.
Biehringer, *Joachim*, and *Albert* **Busch**, new decompositions of the diazo-compounds, A., i, 575.
Biehringer, *Joachim*, and *Wassil* **Topaloff**, thiopyronine, A., i, 695.
Bielfeld, *P.*, iron in human liver cells, A., ii, 517.
Bier, *L.*, and *Leon* **Marchlewski**, absorption of ultra violet rays by bilirubin, biliverdin, urobilin, and proteinchrome, A., i, 636.
Biilmann, *Einar*, formation of cuprous xanthate, A., i, 583.
—— organic mercury compounds, A., i, 665.
Bilecki, *Alois*, atomic weight numbers, A., ii, 449.
Billitzer, *Jean*, acid nature of acetylene, A., i, 525.
—— electro-chemical studies with acetylene. I. Cathodic depolarisation, A., ii, 439.
—— electrical preparation of colloidal mercury and other metals, A., ii, 454.
—— carbon ions, A., ii, 593.
Billon. See **Mathieu**.
Billon, *F.* See *Henri* **Stassano**.
Biltz, *A.*, white Peru balsam, A., i, 634.
Biltz, *Heinrich*, aliphatic nitro-compounds, A., i, 417.
—— oxidation of tetrachloro- and tetrabromo-ethylene, A., i, 417.
—— periodic classification of the elements, A., ii, 201.
Biltz, *Heinrich*, and *Otto* **Amme**, oxidation of *p*-hydroxybenzaldehydephenylhydrazone and certain derivatives to α-diketoneosazones, A., i, 468.
Biltz, *Heinrich*, and *Thankmar* **Arnd**, action of semicarbazide on benzil, A., i, 245.
Biltz, *Heinrich*, and *Otto* **Kammann**, chlorination of *m*-hydroxybenzaldehyde, A. i 162.
Biltz, *Heinrich*, and *Otto* **Kammann**, atmospheric oxidation of *m*-hydroxybenzaldehydephenylhydrazone and its derivatives, A., i, 467.
Biltz, *Heinrich*, *A.* **Maué**, and *Fr.* **Sieden**, additive compounds of aldehydes with phenylhydrazine-*p*-sulphonic acid, A., i, 571.
Biltz, *Heinrich*, and *Gerhard* **Preuner**, determination of the vapour density of sulphur by the Dumas method, A., ii, 132.
Biltz, *Wilhelm*, [with *Julius* **Meyer**], solutions of inorganic salts in water, A., ii, 310.
Bindewald, *Hans*. See *August* **Michaelis**.
Bindschedler, *Emil*, electrolytic estimation of mercury, A., ii, 532.
Bindschedler, *Emil*. See also *Max* **Le Blanc**.
Binz, *Arthur*, and *F.* **Rung**, estimation of indigotin in fabrics, A., ii, 544.
Biot. See *Alphonse* **Seyewetz**.
Biron, *Eugen von*, secondary reactions in Grove's gas battery, A., ii, 1.
Bischkopf, *Eduard*. See *Wilhelm* **Koenigs**.
Bistrzycki, *Augustin*, and *Carl* **Herbst**, *p*-hydroxytriphenylcarbinol, II., A., i, 776.
Bittner, *J. C.* See *Heinrich* **Seidel**.
Bittner, *Karl*, synthesis of pyrindene derivatives, A., i, 493.
—— derivatives of 2:6-dichloroisonicotinic acid, A., i, 823.
Blaise, *Edmond E.*, new reactions of organo-metallic compounds; synthesis of ketones, A., i, 164.
—— new reactions of organometallic compounds, A., i, 357.
—— new dimethylglutaric acid, A., i, 530.
Blaise, *Edmond E.*, and *Georges* **Blanc**, migration of the methyl group in the molecule of camphor, A., i, 299.
Blake, *J. C.*, and *F. C.* **Blake**, rate of hydration of metaphosphoric acid, A., ii, 197.
Blake, *Robert Frederick*. See *Edmund Albert* **Letts**.
Blanc, *Georges*. See *Edmond E.* **Blaise**.
Blanksma, *Jan Johannes*, influence of different atoms and atomic groups on the conversion of aromatic sulphides into sulphones, A., i, 209.
—— 2-cyano-4:6-dinitrophenol and some of its derivatives, A., i, 281.
—— aromatic derivatives of sulphur, A., i, 281.
—— *s*-trinitroxylenol, A., i, 286.
—— pentanitro-1-nitromethylaminobenzene and tetra- and penta-nitrophenol, A., i, 442.

Blanksma, *Jan Johannes*, bromination and nitration in the aromatic series, A., i, 600.
—— intramolecular rearrangement in halogen acetanilides, and its velocity, A., ii, 646.
Blanksma, *Jan Johannes*, and *P. C. E.* **Meerum Terwogt**, derivatives of 1:3-dichloro-4:6-dinitrobenzene, A., i, 715.
Blembel, *Alexander*. See *Otto* **Wallach**.
Bloch, *C.* See *Theodor* **Pfeiffer**.
Blochmann, *Richard*. See *Emil* **Fischer**.
Blount, *Bertram*, estimation of carbon in steel by direct combustion, A., ii, 174.
Blum, *Fritz*, suprarenal diabetes, A., ii, 575.
Bluman, *Nicholas J.*, monazite from New Granada, A., ii, 28.
Blumenthal, *Ferdinand*, indoxyluria, A., ii, 620.
Blumenthal, *Ferdinand*. See also *Carl* **Neuberg**.
Blyth, *Meredith Wynter*, detection of artificial colouring matters in fresh and sour milk, A., ii, 540.
Bocarius, *N.*, Florence's crystals, A., ii, 274.
Bodart, *Albert*, hepta-acetychlorolactose, A., i, 347.
Bodländer, *Guido*, the investigation of complex compounds, A., ii, 63.
—— relative strength of hydrochloric and nitric acids, A., ii, 240.
—— electrolysis of molten salts, A., ii, 640.
—— cuprous compounds, A., ii, 642.
Bodländer, *Guido*, and *Rudolph* **Fittig**, behaviour of molecular compounds on dissolution, II., A., ii, 248.
Bodländer, *Guido*, and *Otto* **Sackur**, relative strength of hydrochloric and nitric acids, A., ii, 314.
Bodländer, *Guido*, and *Otto* **Storbeck**, cuprous compounds, A., ii, 502, 607.
Bodländer, *Guido*. See also *Richard* **Abegg**.
Bodman, *Gösta*, isomorphism of salts of bismuth and some of the rare earths, A., ii, 507.
Bodroux, *F.*, some lecture experiments, A., ii, 391.
—— preparation of gaseous hydrogen phosphide, A., ii, 499.
Böck, *Fritz*. See *Max* **Bamberger**.
Böcker, *Theodor*. See *Otto* **Wallach**, and *O.* **Stephani**.
Böggild, *O. B.*, ilvaite from Siorarsuit, Greenland, A., ii, 512.
Böhm, *C. R.*, preparation of the cerite metals from "*Cerium oxalicum medicinale*," A., ii, 455.
Boehm, *Rudolf*, filicyl-*n*-butanone, A., i, 36.
—— aspidinol, A., i, 37.
—— constitution of albaspidin and flavaspidic and filixic acids; two noteworthy reactions in the phloroglucinol series, A., i, 37.
[**Boehm**, *Rudolf*, and] *Arthur* **Lobeck**, constituents of koso flowers, A., i, 167.
Boehringer & Söhne, *C. F.*, homologues of xanthine, A., i, 125, 504.
—— camphidone and camphidine, A., i, 385.
—— 4:5-diacetyldiaminouracil, A., i, 504.
—— thioxanthine, A., i, 505.
—— reduction of aromatic nitro-compounds to amines, A., i, 715.
Bölsing, *Fr.* See *Albert* **Verley**.
Bömer, *A.*, detection of vegetable fats in animal fats by the phytosteryl acetate test, A., ii, 184.
Bömer, *A.*, and *K.* **Winter**, some esters of cholesterol and phytosterol, A., i, 30.
Börnstein, *Ernst*, diphenyl derivatives, A., i, 127.
—— special case of steric hindrance, A., i, 165.
Boes, *A.*, estimation of potassium in beets, oats, potatoes, and ash of plants, A., ii, 474.
Boes, *Johannes*, isomeric dimethylcoumarones contained in coal-tar, A., i, 151.
—— organic mercury compounds, A., i, 151.
—— bimolecular coumarone, A., i, 291.
—— dimethylindenes contained in tar, A., i, 435.
—— methylindenes from coal tar, A., i, 534.
—— naphthafurfuran from coal tar, A., i, 554.
—— reactions of hydrocoumarone, A., i, 784.
—— value of peat ash as manure, A., ii, 471.
Böters, *O.*, reactions of the dihalogenthymoquinones, A., i, 473.
Böttcher, *O.* See *Oscar* **Kellner**.
Böttger, *Wilhelm*, and *Arthur* **Kötz**, reaction between chloral hydrate and alkali, A., i, 659.
Bötticher, *Hans*. See *Otto* **Wallach**.
Boetzelen, *Ernst*, hydrazide and azoimide of phenylacetic acid, A., i, 58.
Bogert, *Marston Taylor*, and *Leopold* **Boroschek**, the mononitrophthalic acids, A., i, 98.

Bogert, *Marston Taylor,* and *David C.* **Eccles,** production of the imides of succinic and glutaric acids by the partial hydrolysis of the corresponding nitriles, A., i, 270.

Bohrisch, *Paul.* See *Adolf* **Beythien.**

Bokorny, *Thomas,* nature of enzymes, A., i, 128.

—— physiological and acid proteolysis, A., i, 408.

—— invertase of yeast; quantitative experiments on the action of alcohol and acids on this enzyme, A., i, 848.

—— assimilation of some Fungi compared with that of green plants, A., ii, 345.

—— do germinating seeds contain peptonising or other proteolytic enzymes? A., ii, 418.

Bollemont, *E. Grégoire de.* See *Jules* **Minguin.**

Bollina, *Elvesio, Stanislaus von* **Kostanecki,** and *Josef* **Tambor,** brazilin, A., i, 482.

Bolton, *Werner von,* direct combination of chlorine and carbon, A., ii, 393.

Bonanni, *A.,* borneol- and menthol-glycuronic acids, A., ii, 160.

Bondi, *S.,* silk-glue—sericin, A., i, 597.

Bondzyński, *Stanislaus,* and *K.* **Panek,** allo-oxyproteic acid, a normal constituent of urine, A., i, 847.

Bone, *William Arthur,* and *Charles Henry Graham* **Sprankling,** the synthesis of alkyltricarballylic acids, T., 29; P., **1901,** 215.

—— —— the bromination of trimethylsuccinic acid and the interaction of ethyl bromotrimethylsuccinate and ethyl sodiocyanoacetate, T., 50; P., **1901,** 243.

Bone, *William Arthur,* and *Richard V.* **Wheeler,** the slow oxidation of methane at low temperatures, T., 535; P., **1902,** 51.

Bongert, *A.,* action of certain acid chlorides on methyl and ethyl sodioacetoacetate, A., i, 73.

Bonnin, *Louis,* sweet potato, A., ii, 42.

Book, *G.,* action of acetone on nitroopianic acid, A., i, 464.

Bordas, *Fréd.,* and *Sig. de* **Raczkowski,** effect of freezing on milk, A., ii, 158.

—— —— estimation of lecithin in milk, A., ii, 587.

—— —— variation in [the amount of] phosphoric acid according to the period of lactation, A., ii, 626.

—— —— [composition of skimmed milk], A., ii, 678.

Bordelius, *S.* See *Wladimir N.* **Ipatieff.**

Borelli, *V.* See *Giacomo* **Ponzio.**

Bornhardt, *W.,* and *B.* **Kühn,** minerals from German East Africa, A., ii, 667.

Borntraeger, *Arthur,* sugars and organic acids contained in some South European fruits, A., ii, 347.

Bornträger, *Hugo,* composition of molasses from pale peat, A., i, 205.

—— rapid technical analysis of pale and dark peats, A., ii, 187.

Boroschek, *Leopold.* See *Marston Taylor* **Bogert,** and *Julius* **Rudisch.**

Borsche, *Walther,* a new reaction of semicarbazones, A., i, 186.

—— synthesis of xanthine derivatives by means of *p*-nitrophenol, A., i, 836.

Borsche, *Walther,* and *Ugo K.* **Locatelli,** tolyl purpurates, A., i, 226.

Borsum, *W.* See *Fritz* **Ullmann.**

Bosch, *Eberhard.* See *Gustav* **Schultz.**

Bose, *Emil,* electromotive efficiency of the elementary gases, II., A., ii, 58.

—— Faraday's law and its range of validity, A., ii, 299.

—— some measurements with gas elements, A., ii, 375.

Bots, *H.* See *Robert* **Gnehm.**

Bottazzi, *Filippo,* coagulation of blood in marine animals, A., ii, 410.

Bouchetal de La Roche, phenolic urethanes of piperidine, A., i, 562.

Boudouard, *Octave,* alloys of aluminium and magnesium, A., ii, 141.

—— alloys of cadmium and magnesium, A., ii, 501.

Bougault, *J.,* oxidation of anethole and analogous compounds containing a propenylic side chain, A., i, 452.

—— oxidation of morphine by the extract of *Russula delica,* A., i, 638.

—— arsenic in glycerol, A., ii, 530.

Bouilhac, *Raoul,* effect of methylal on some fresh-water Algæ, A., ii, 40.

Boulouch, *R.,* the mixtures formed by sulphur and phosphorus below 100°, A., ii, 560.

Boulud. See *Raphael* **Lépine.**

Bourcet, *Paul.* See *Eugène* **Gley.**

Bourion, *F.,* compounds of alcohol with the chlorides of manganese and cobalt, A., i, 334.

Bourquelot, *Émile* [*Elié*], detection of sucrose in plants by means of invertin, and of glucosides by means of emulsin, A., ii, 55.

—— sucrose in the food reserves of phanerogams, A., ii, 420.

—— detection of aloin, tyrosine, loganin, opium preparations, tincture of cachou, A., ii, 483.

Bourquelot, *Émile,* and *Henri* **Hérissey,** new glucoside, aucubin, contained in the seeds of *Aucuba japonica,* A., i, 634.

Bourquelot, *Émile*, and *Henri* **Hérissey**, preparation and properties of crystallised gentiobiose, A., i, 713.
—— —— action of soluble ferments and top yeast on gentiobiose, A., i, 744.
Bouveault, *Louis*, and *René* **Locquin**, action of nitrous acid on α-substituted β-ketonic esters; synthesis of the homologues of pyruvic acid, A., i, 704.
—— —— action of alkali nitrites on α-substituted β-ketonic esters, A., i, 795.
Bouveault, *Louis*, and *Léon* [*Alexandre*] **Tétry**, pulegenic acid, A., i, 420.
Bouveault, *Louis*, and *André R.* **Wahl**, action of dilute mineral acids on ethyl aminodimethylacrylate, A., i, 137.
—— —— process of the gradual synthesis of aldehydes, A., i, 532.
—— —— synthesis of aldehydes of the acetic series by means of nitromethane, A., i, 591.
—— —— condensation of nitromethane with aromatic aldehydes, A., i, 682.
Bouzat, *Albert*, ammoniacal cupric oxide, A., ii, 490.
—— constitution of cuprammonium salts; action of ammonia, A., ii, 502.
—— displacement of strong bases by ammoniacal cupric oxide, A., ii, 550.
—— anhydrous ammonio-cupric chlorides: cuprammonio-radicles, A., ii, 607.
Bowdler, *William Audley*. See *Robert Howson* **Pickard**.
Bowman, *Herbert L.*, [muscovite] from Haddam Neck, Connecticut, A., ii, 408.
Boyen, *Edgar von*, montan wax, A., i, 72.
Bradley, *Sidney Wallace*. See *John Theodore* **Hewitt**.
Bradley, *Walter P.*, and *A. W.* **Browne**, a thermostat sensitive to a thousandth of a degree, A., ii, 378.
Bräutigam, *Walter*, testing of honey, A., ii, 362.
Brakes, *James*, volumetric estimation of molybdenum in molybdenum steel and ferro-molybdenum, A., ii, 533.
Bran, *Fr.*, behaviour of platinum and platinum-iridium anodes in the electrolysis of hydrochloric acid, A., ii, 442.
Brand, *Johannes*, human bile, A., ii, 572.
Brandl, *Josef*. See **Jodlbauer**.
Braun, *A.* See *Hans* **Rupe**, and *Joseph* **Tscherniac**.
Braun, *Julius von*, thiuram disulphides and isothiuram disulphides, I., A., i 271.
Braun, *Julius von*, and *K.* **Rumpf**, thiocarbimides and thiocarbamides derived from terpenes, A., i, 275.
Braun, *Julius von*, and *Rudolf* **Schwarz**, action of cyanogen bromide on tertiary amines, IV., A., i, 365.
Brauner, *Bohuslav*, place of hydrogen in the periodic system, A., ii, 66.
—— position of the rare-earth elements in Mendeléeff's periodic system, A., ii, 312.
Brauner, *Bohuslav*, and *František* **Pavlíček**, revision of the atomic weight of lanthanum, T., 1243; P., **1901**, 63.
Brearley, *Harry*. See *Fred* **Ibbotson**.
Bredig, *Georg*, oxygen bases, A., i, 230.
Bredt, *Julius*, *Joseph* **Houben**, and *Paul* **Levy**, isomeric dehydrocamphoric and lauronolic acids and dihydrolaurolactone, A., i, 374.
Brefeld, *O.*, assimilation of nitrogen by plants, A., ii, 344.
Bremer, *Gustav Jacob Wilhelm*, density and expansion by heat of solutions of magnesium chloride, A., ii, 76.
Bremer, *Hermann*, detection of margarine in dairy products by means of the sesamé oil test, A., ii, 113, 114.
Brenans, *P.*, iodophenols, A., i, 280.
—— a new di-iodophenol, A., i, 673.
Brevans, *J. de*, detection of benzoic acid and alkali benzoates in food, A., ii, 112.
Breyer, *Otto*. See *Rudolf* **Wegscheider**.
Brieger, *Ludwig*, and *G.* **Diesselhorst**, researches on the arrow poisons from German East Africa, A., i, 634.
Briggs, *Lyman J.* See *Frank Kenneth* **Cameron**.
Briggs, *Samuel Henry Clifford*, a series of double chromates, P., **1902**, 254.
Briggs, *Samuel Henry Clifford*. See also *Julius Berend* **Cohen**, and *Arthur George* **Perkin**.
Brocard. See *Albert* **Charrin**.
Brodie, *Thomas Gregor*, and *William Dobinson* **Halliburton**, fatigue in nerves, A., ii, 416.
Brodie, *William Brodie*, condition of the iron in the spleen, A., ii, 339.
Broicher, *Josef*. See *Karl* **Auwers**.
Bromberger, *Paul*. See *Carl D.* **Harries**.
Brooks, (*Miss*) *H. T.* See *E.* **Rutherford**.
Brouant, *R.* See *Gustave* **Patein**.
Brown, *Adrian John*, enzyme action, T., 373; P., **1902**, 41.
Brown, *Horace T.*, and *Ferguson* **Escombe**, influence of varying amounts of carbon dioxide in the air on the photosynthetic process of leaves and on the mode of growth of plants, A., ii, 682.

Brown, *Horace T.*, and *Tom Aldrich* **Glendinning**, the velocity of hydrolysis of starch by diastase, with some remarks on enzyme action, T., 388; P., **1902**, 43.

Brown, *Reginald B.*, and *John* **McCrae**, the solution theory of dyeing, A., ii, 128.

Browne, *A. W.*, synthetic analysis in ternary systems, A., ii, 648.

Browne, *A. W.* See also *Walter P.* **Bradley**.

Browne, *Charles A., jun.*, analysis of the apple and some of its products, A., ii, 371.

Browne, *Charles A., jun.*, and *Bernhard* **Tollens**, constituents of the pith of maize and of elder, and the simultaneous occurrence of araban and xylan in plants, A., ii, 420.

Browning, *Kendall Colin*, phosphorus suboxide, P., **1901**, 243.

—— quadrivalent oxygen, A., ii, 208.

Browning, *Philip Embury*, estimation of cæsium and rubidium as hydrogen sulphates, and of potassium and sodium as pyrosulphates, A., ii, 175.

Bruder, *Victor*. See *August* **Michaelis**.

Brüggemann, *Fritz*. See *Robert* **Pschorr**.

Brühl, *Julius Wilhelm*, constitution of the so-called nitrosourethane, A., i, 353.

Brun, *A.*, fusion point of minerals and the petrographic and synthetic conclusions derived from the results, A., ii, 461.

Brunck, *Otto*, electrolytic determination of bismuth, A., ii, 478.

Bruner, *Ludwik*, dissociation of the hydrate and alcoholate of chloral in solution, A., ii, 305.

—— mechanism of the catalytic action of iodine on the bromination of benzene, A., ii, 447.

Bruner, *Ludwik*, and *Stanislaw* **Tolloczko**, velocity of solution of solid substances, II., A., ii, 62

Bruni, *Giuseppe*, properties of nitrogen peroxide as a solvent, A., ii, 312.

—— distinction between polymorphism and chemical isomerism, A., ii, 448.

Bruni, *Giuseppe*, and *Wilhelm* **Meyerhoffer**, heterogeneous equilibrium between mixed isomorphous crystals of hydrated salts, A., ii, 308.

Bruni, *Giuseppe*, and *Maurice* **Padoa**, existence of racemic compounds in solution, A., i, 343.

—— —— formation of mixed crystals by sublimation, A., ii, 648.

Bruni, *Giuseppe*. See also *Jacobus Henricus van't* **Hoff**.

Brunner, *Heinrich*, isosalicylic acid, A., i, 452.

Brunswig, *Richard*. See *Emil* **Knoevenagel**.

Bruntz, *Louis*, and *Jean* **Gautrelet**, comparison of the organic liquids of the crab and sacculina, A., ii, 676.

Bruyn, *Balthasar Rutger de*. See *Arnold Frederik* **Holleman**.

Bruyn, *Cornelis Adriaan Lobry de*, insoluble inorganic compounds in collodial solution, A., ii, 646.

Bruyn, *Cornelis Adriaan Lobry de*, and *William* **Alberda van Ekenstein**, methylene compounds of hydroxy-acids, A., i, 76.

—— —— formaldehyde (methylene) derivatives of sugars and glucosides, A., i, 745.

Bruyn, *Cornelis Adriaan Lobry de*, and *J. W.* **Dito**, boiling point curve of the system — hydrazine + water, A., ii, 644.

Bruyn, *Cornelis Adriaan Lobry de*. See also *William* **Alberda van Ekenstein**.

Bucherer, *Hans*, new method for the preparation of nitriles, A., i, 533.

—— a new system of classification of azo-dyes, A., i, 577.

—— action of sulphites on aromatic *o*-hydroxycarboxylic acids, A., i, 718.

Buchner, *Eduard*, and *Christophor* **Hachumian**, 5:3-pyrazolecarboxylic acid from 5-(or 3-)phenylpyrazole, A., i, 236.

Buchner, *Eduard*, and *Carl von der* **Heide**, pyrazole derivatives, A., i, 236.

Buchner, *Eduard*, and *Louis* **Lehmann**, phenylacetylene and alkyl diazoacetates, A., i, 236.

Buchner, *Eduard*, and *Heinrich* **Schröder**, derivatives of 1:2-pyrone or coumalin from pyrazolines, A., i, 319.

Buchner, *Eduard*, and *Albert* **Spitta**, formation of zymase in yeast, A., i, 580.

Buchner, *Eduard*. See also *Robert* **Albert**, and *Wilhelm* **Behaghel**.

Buchner, *Max*. See *Arthur* **Hantzsch**.

Budde, *Chr.* See *Julius* **Tröger**.

Bückel, *Carl*. See *Emil* **Knoevenagel**.

Bücking, *Hugo*, large crystals of carnallite from Beienrode, A., ii, 610.

Bülow, *Carl*, and *Hans* **Grotowsky**, condensation product from phenylacetylacetophenone and resorcinol, A., i, 484.

—— —— 1:4-benzopyranol derivatives from phenylacetylacetophenone and trihydric phenols and orcinol, A., i, 554.

Bülow, *Carl,* and *Ekkehard* **Hailer,** action of diazo-compounds on the esters of 2-acyl-1:3-ketonic acids, A., i, 325.

Bülow, *Carl,* and *Georg* **List,** relative difference in basicity of the two amino-groups of substituted diamines, A., i, 237, 312.

—— —— relative basicity of the two amino-groups in substituted diamines, III. *p*-Tolylenediamine [CH_3:NH_2:NH_2=1:2:5], A., i, 312.

Bülow, *Carl,* and *Fritz* **Schlotterbeck,** azo-compounds of acetylacetone, A., i, 649.

Bülow, *Carl,* and *Walther von* **Sicherer,** dihydroxy-derivatives of 2:4-diphenyl-1:4-benzopyranol, A., i, 112.

—— —— new benzopyranol derivatives from benzoylacetaldehyde and polyhydric phenols, A., i, 113.

Buerger, *Leo,* and *William J.* **Gies,** chemical constituents of tendon, A., ii, 95.

Büschler, *Ernst.* See *August* **Michaelis.**

Bufleb, *Hermann.* See *Ludwig* **Knorr.**

Bugarszky, *István,* velocity of reaction of bromine on ethyl alcohol, A., ii, 9.

Buhlmann, *Otto,* and *Alfred* **Einhorn,** anthranil, A., i, 94.

Bulloch, *William,* hæmolysis and bacteriolysis, A., ii, 94.

—— hereditary transmission of hæmolysins, A., ii, 464.

Bunge, *Nikolaj A.,* history of the electrolysis of organic acids, A., i, 338.

Buraczewski, *J.,* and *Leon* **Marchlewski,** isatin, A., i, 120.

Burgess, *Herbert Edward,* and *J. F.* **Child,** [examination of lemon oil], A., ii, 232.

Burian, *Richard,* and *Heinrich* **Schur,** *rôle* of purine derivatives in human metabolism, A., ii, 33.

Burk, *W. E.,* estimation of fluorine in fluorides easily decomposable by sulphuric acid, A., ii, 170.

Burkard, *Emil,* and *Morris William* **Travers,** the action of acetylene on the acetates of mercury, T., 1270; P., **1902,** 183.

Burrows, *Harry.* See *William Augustus* **Tilden.**

Burstyn, *Walter,* pressure regulator for vacuum distillation in the laboratory, A., ii, 313.

Burton-Opitz, *Russell,* viscosity of the blood, A., ii, 410.

Busch, *Albert.* See *Joachim* **Biehringer.**

Busch, *Max,* constitution of phenylurazole, A., i, 321.

Busch, *Max,* molecular transformation in the urazole series, A., i, 322.

—— constitution of the urazoles, A., i, 501.

—— Herzig and Meyer's method of estimating methyl, A., i, 501.

Busch, *Max,* and *Edmund* **Lingenbrink,** limits of the formation of cyclic dithiocarbonates, A., i, 573.

Busch, *Max,* and *Theodor* **Ulmer,** aminoguanidines, A., i, 573.

—— —— products of the interaction of hydrazine with thiocarbamides, II., A., i, 575.

Busz, *Karl,* manganosphærite, a new variety of oligonite, A., ii, 146.

Butler, *J. A.,* and *A. S.* **French,** nitrogenous metabolism in a case of Bright's disease, A., ii, 466.

Byers, *H. G.,* and *Paul* **Hopkins,** wood tar of the Douglas fir (*Pseudotsuga taxifolia*), A., i, 738.

—— —— oil of the red elderberry, *Sambucus racemosa var. arborescens,* A., ii, 685.

C.

Cadéac and **Maignon,** glycosuria of muscular origin, A., ii, 466.

—— —— the production of dextrose by muscles, A., ii, 517.

Cain, *John Cannell,* and *Frank* **Nicoll,** the rate of decomposition of diazo-compounds. Part I. Diazo-compounds of the benzene series, T., 1412; P., **1902,** 186.

—— —— rate of decomposition of diazo-compounds. Part II. Diazo-compounds of the naphthalene series, P., **1902,** 244.

Caldwell, *W.* See *Edmund Albert* **Letts.**

Calhane, *Daniel F.* See *Charles Loring* **Jackson.**

Calmette, *A.,* hæmolytic action of venin, A., ii, 519.

Calvert, *Harry Thornton,* alkali salts of hydrogen peroxide in aqueous solution, A., ii, 10.

Camerer, *William,* estimation of nitrogen in urine treated with phosphotungstic and hydrochloric acids, A., ii, 426.

Camerer, *William, jun.,* excretion of ammonia in human urine, A., ii, 416.

Camerer, *William, jun., Friedrich* **Söldner,** and **Herzog,** chemical composition of new-born children, A., ii, 413.

Cameron, *Frank Kenneth,* solubility of gypsum in aqueous solutions of sodium chloride, A., ii, 75.

Cameron, *Frank Kenneth*, and *Lyman J.* **Briggs,** equilibrium between carbonates and bicarbonates in aqueous solution, A., ii, 64.

Cameron, *Frank Kenneth*, and *Atherton* **Seidell,** solubility of gypsum in aqueous solutions of certain electrolytes, A., ii, 207.

—— —— solubility of calcium carbonate in aqueous solutions of certain electrolytes in equilibrium with atmospheric air, A., ii, 320.

Cameron, *Frank Kenneth*. See also *Atherton* **Seidell.**

Campbell, *William*, and *John Alexander* **Mathews,** alloys of aluminium, A., ii, 399.

Camps, *Rudolf*, syntheses of 2- and 4-hydroxyquinolines, A., i, 178, 396.

—— nitro- and amino-acetophenone (hypnone), A., i, 294.

—— the three isomeric cyanides of pyridine, A., i, 823.

—— some carbamides, thiocarbamides, and ethyl carbamates of pyridine, A., i, 824.

Camus, *Lucien*, enterokinase and secretin, A., ii, 614.

Capatina, *Alexander*. See *Friedrich* **Kehrmann.**

Carette, [*Denis*] *Henri*, derivatives of methyl nonyl ketone, A., i, 346.

Cari-Mantrand, *M.*, vintage musts and liqueur wines: their specific characters and analysis, A., ii, 712.

Carles, *P.*, assay of crude cream of tartar, A., ii, 435.

Carmichael, *E. Scott*, effect of injection of micro-organisms on the sterility of bile, A., ii, 678.

Carmody, *Patrick*, prussic acid in sweet cassava, A., ii, 100.

Carpenter, *Henry Cort Harold*, the oxidation of sulphurous acid to dithionic acid by metallic oxides, T., 1; P., **1901**, 212.

Carpiaux, *Em.*, chicory and the production of leaves, A., ii, 524.

Carré, *P.*, esterification of phosphorous acid by glycerol and glycol, A., i, 131.

—— action of phosphorus trichloride on glycerol and on glycol, A., i, 338.

Carson, *C. M.* See *William Robert* **Lang.**

Cartaud, *G.* See *Floris* **Osmond.**

Carter, *William*. See *Robert Howson* **Pickard.**

Carveth, *Hector R.*, studies in vapour composition, A., ii, 600, 644.

Casali, *Adolfo*, ammonia in meteoric waters; red rain, A., ii, 423.

Casoria, *Eugenio*, the saline sublimation products of Vesuvius and the amounts of molybdenum, bismuth, cobalt and zinc therein, A., ii, 407.

Caspari, *Charles E.*, the fatty oil contained in the seeds of *Lindera Benzoin*. II. Lauric acid and some of its derivatives, A., i, 419.

Cassart, *E.*, and *G.* **Saux,** toxic substance produced by gastric digestion, A., ii, 216.

Cassella & Co., *Leopold*, 7-amino-β-naphtholsulphonic acid, A., i, 718.

Castoro, *Nicola*, preparation of malic acid from stems of rhubarb, A., i, 590.

Cathelineau, and *Jean* [*Louis*] **Hausser,** empyreaumatic oil of juniper; cadinene, A., i, 44.

Caubet, *F.*, liquefaction of gaseous mixtures, A., ii, 382.

Causse, *Henri* [*Eugène*], study of fatty acids in contaminated waters, A., ii, 360.

—— estimation of organic nitrogen in water, A., ii, 584.

Caven, *Robert Martin*, the molecular configuration of phosphoryl chloride and its derivatives, T., 1362; P., **1901**, 26.

Centnerszwer, *M.*, solvent and dissociative powers of liquid cyanogen and liquid hydrogen cyanide, A., ii, 126.

Centnerszwer, *M.* See also *Paul* **Walden.**

Cerný, *Karl*, arsenic in the animal organism, A., ii, 274.

Černy, *Zdenko*, separation of proteoses by metallic salts, A., i, 194.

—— detection of urine peptone, A., ii, 116.

Chabrié, *Camille*, cæsium compounds, A., ii, 561.

Chabrié, *Camille*, and *R.* **Jacob,** action of selenyl chloride on erythritol, A., i, 657.

Champenois, *G.*, reserve carbohydrates of the seed of *Aucuba japonica*, L., A., ii, 166.

—— carbohydrates present in the seed of *Phellandrium aquaticum*, A., ii, 282.

Chandler, *S. E.* See *John Bretland* **Farmer.**

Chapman, *David Leonard*, and *Frank Austin* **Lidbury,** the decomposition of water vapour by the electric spark, T., 1301; P., **1902**, 183.

Chapman, *J. E.* See *Francis W.* **Goodbody.**

Charabot, *Eugène*, and *Alexandre* **Hébert,** mechanism of esterification in plants, A., ii, 99.

—— —— chemical modifications in plants under the influence of sodium chloride, A., ii, 346.

Charabot, *Eugène*, and *Alexandre* **Hébert**, mechanism of the chemical changes in plants subjected to the influence of sodium nitrate, A., ii, 523.

Charabot, *Eugène*, and *J.* **Rocherolles**, simultaneous distillation of two non-miscible substances, A., ii, 552.

Charitschkoff, *K. W.*, Ferghana naphtha, A., ii, 509.

—— inapplicability of Winkler's method of fractional combustion of the hydrogen to the examination of natural gas, A., ii, 529.

—— fractional combustion of hydrogen, carbon monoxide, and isopentane, A., ii, 702.

Charon, *Ernest*, and *Démétrius* **Zamanos**, constitution of piceol, A., i, 104.

Charpentier, *P. G.*, assimilation of carbon by a green Alga, A., ii, 419.

Charpy, *Georges*, and *Louis* **Grenet**, chemical equilibrium of carbon-iron systems, A., ii, 209.

Charrin, *Albert*, and **Brocard**, utilisation of sugars by the organism, A., ii, 216, 274.

Charrin, *Albert*, and *A.* **Guillemonat**, variations in the products formed by pathogenic bacteria, A., ii, 576.

Chassy, *A.*, production of ozone, A., ii, 67.

—— influence of voltage on the formation of ozone, A., ii, 486.

Chattaway, *Frederick Daniel*, nitrogen chlorides containing the propionyl group, T., 637; P., **1902**, 64.

—— nitrogen bromides containing the propionyl group, T., 814; P., **1902**, 113.

—— substituted nitrogen chlorides containing the azo-group, T., 982; P., **1902**, 174.

—— a new type of substituted nitrogen chlorides, P., **1902**, 165.

—— transformation of diacetanilide into acetyl-*p*-aminoacetophenone, P., **1902**, 173.

—— the transformation of diazoamino- into aminoazo-compounds, and of hydrazobenzene into benzidine, P., **1902**, 175.

Chattaway, *Frederick Daniel*, and *Kennedy Joseph Previte* **Orton**, the transformation of acetylchloroaminobenzenes into the isomeric chloroacetanilides, P., **1902**, 200.

Chattaway, *Frederick Daniel*, and *John Mello* **Wadmore**, the constitution of hydrocyanic, cyanic, and cyanuric acids, T., 191; P., **1902**, 5; discussion, P., 6.

Chattaway, *Frederick Daniel*, and *John Mello* **Wadmore**, nitrogen chlorides and bromides derived from ortho-substituted anilides, T., 984; P., **1902**, 173.

—— —— the Cloëz reaction, P., **1902**, 56; discussion, P., 57.

Chaudier, *J.*, variation of electromotive force and of the temperature coefficient of the Daniell cell with the concentration of the zinc sulphate, A., ii, 239.

Chaumeil, *A.*, estimation of glycerol by means of iodic acid in presence of sulphuric acid, A., ii, 536.

Chavanne, *G.*, derivatives of arabinose, A., i, 346.

—— pyromucic acid and isopyromucic acid; action of phosphorus pentachloride and phosphorus oxychloride, A., i, 637.

—— acyl derivatives of isopyromucic acid: isopyromucyl acetate, benzoate, and pyromucate, A., i, 690.

Checchi, *Q.* See *N.* **Tarugi**.

Chemische Fabrik auf Aktien (**vorm. *E.* Schering**), ethylenediamine carbonate, A., i, 84.

—— [compounds of ethylenediamine and its derivatives with mercuric salts], A., i, 348.

—— methylenecitric acid, A., i, 424.

—— dimethylene tartrate, A., i, 705.

Chemische Fabrik Griesheim-Elektron, electrolytic production of lead dioxide, A., ii, 322.

Chemische Fabrik von Heyden, preparation of chlorides and anhydrides of the carboxy-acids, A., i, 93.

—— ethyl phenylglycine-*o*-carboxylates, A., i, 289.

—— isolation of aldehydes, A., i, 376.

—— soluble compounds of casein with hydrogen bromide or iodide, A., i, 409.

Chemische Fabrik vorm. Sandoz, [4-nitro-*p*-hydroxyphenyl-α-naphthylamine], A., i, 366.

Chester, *Albert H.*, mineralogical notes, A., ii, 611.

Chevrotier, *J.* See *Auguste* **Lumière**.

Chikashigé, *Masumi*. See *Mitsuru* **Kuhara**.

Child, *J. F.* See *Herbert Edward* **Burgess**.

Chlopin, *Grigori V.*, new reagent for the detection of ozone, A., ii, 582.

Chodat, *Robert*, and *A.* **Bach**, function of peroxides in cell-life, I., A., ii, 344.

Chodat, *Robert*. See also *A.* **Bach**.

Christy, *Samuel Benedict*, electromotive force of metals in cyanide solutions, A., ii, 193, 440.

Chrustchoff, *Paul D.*, cryoscopic researches, A., ii, 382.

Ciamician, *Giacomo Luigi*, conversion of pyrrole into pyrroline, A., i, 115.
—— polymerisation of inorganic chloro-anhydrides, A., ii, 123.
Ciamician, *Giacomo Luigi*, and *Paul G.* **Silber**, action of paraldehyde on *o*-nitrosobenzoic acid, A., i, 378.
—— —— chemical action of light, III., A., i, 433.
Ciommo, *Giuseppe di*, electrical conductivity of sodium and potassium hydroxides in glycerol, A., ii, 3.
Claisen, *Ludwig*, and *Konrad* **Meyer**, acetoacetamide, A., i, 207.
Clarke, *Frank Wigglesworth*, report of the [American] committee on atomic weights, A., ii, 389.
—— calculation of atomic weights, A., ii, 449.
Clarke, *Frank Wigglesworth*, and *George* **Steiger**, action of ammonium chloride on certain silicates, A., ii, 269.
Clarke, *Mary E.* See *J. H.* **Kastle**.
Clausen, *H.*, is the form of cereal plants influenced by nitrogenous manures? A., ii, 283.
Clay, *G. Harry*. See *William Albert* **Noyes**.
Clayton, *Edwy Godwin*, on an incrustation from the Stone Gallery of St. Paul's Cathedral, P., **1901**, 201.
—— asbestos, P., **1901**, 203.
—— phosphorus sesquisulphide and its behaviour with Mitscherlich's test, P., **1902**, 129.
Clemens, *Paul*, Ehrlich's *p*-dimethylaminobenzaldehyde reaction, A., ii, 296.
Clemens, *Paul*. See also *Emil* **Fromm**.
Clemm, *Walther Nic.*, decomposition of carbohydrates by ferments and enzymes of animal and vegetable origin, A., i, 348.
Clermont, *Arthur*, reactions of trichloroacetic acid, A., i, 71.
Cleve, (*Miss*) *Astrid*, ytterbium, A., ii, 659.
Clover, *A. M.*, preparation of the halogen derivatives of butyric and the δ-halogen derivatives of valeric acids, A., i, 200.
Clowes, *Frank*, the chemical change produced by the immersion of lead in distilled water, P., **1902**, 46.
Coehn, *Alfred*, oxonium theory, A., i, 686.
—— cathodic polarisation and formation of alloys, A., ii, 2.
—— electrolytic preparation of new alloys, A., ii, 660.
Coehn, *Alfred*, and *Edgar* **Neumann**, the discharge potential of hydrogen at a mercury cathode, A., ii, 118.
Coffignier, *Ch.*, solubility of certain fresh resins, A., i, 633.
—— solubility of Prussian blue under certain conditions, A., i, 664.
—— analysis of lithopone, A., ii, 630.
Cohen, *Emil Wilhelm*, meteoric irons, A., ii, 463.
—— meteoric iron from Surprise Springs, California, A., ii, 613.
Cohen, *Ernst*, enantiotropy of tin, VII., A., ii, 266.
Cohen, *Julius Berend*, and *Samuel Henry Clifford* **Briggs**, menthyl formylphenylacetate, P., **1902**, 172.
Cohen, *Julius Berend*, and *Henry Drysdale* **Dakin**, note on the reduction of trinitrobenzene and trinitrotoluene with hydrogen sulphide, T., 26; P., **1901**, 214.
—— —— the chlorination of the dichlorotoluenes in presence of the aluminium-mercury couple. The constitution of the trichlorotoluenes, T., 1324; P., **1902**, 183.
—— —— the constitution of the nitro- and dinitro- derivatives of the dichlorotoluenes, T., 1344; P., **1902**, 184.
—— —— the constitution of the products of nitration of *m*-acetotoluidide, P., **1902**, 240.
Cohen, *Julius Berend*, and *J. T.* **Thompson**, the action of sodium hypochlorite on benzenesulphonanilide, P., **1901**, 262.
Cohn, *Paul*, two new chloroanthranilic acids, A., i, 63.
—— *o*-chloro-*p*-nitroaniline, A., i, 441.
Cohn, *Paul*, and *Paul* **Friedländer**, 2:4-dinitrobenzaldehyde, A., i, 376.
Cohn, *Paul*, and *Markus* **Schifferes**, chloro-*m*-phenylenediaminecarboxylic acid, A., i, 730.
Cohn, *Paul*. See also *Paul* **Friedländer**.
Cohn, *Robert*, gravimetric and volumetric estimation of mercury, copper, and zinc, A., ii, 50.
Cohn, *Robert*. See also *Arthur* **Rosenheim**.
Cohnheim, *Otto*, the passage of proteid through the intestinal wall, A., ii, 93.
—— erepsin, A., ii, 413.
—— proteid digestion and absorption in Octopods, A., ii, 572.
—— mechanism of intestinal absorption in Octopods, A., ii, 572.
—— trypsin and erepsin, A., ii, 673.
Cole, *Sydney W.* See *Frederick Gowland* **Hopkins**.
Collet, *A.*, action of alcoholic ammonia on the ω-bromine derivatives of *p*-chlorophenyl methyl ketone and *p*-bromophenyl methyl ketone, A., i, 39.

Collet, *A.*, action of hydroxylamine on some halogen derivatives of acetophenone, A., i, 625.
Collie, *John Norman*. See *Thomas* **Tickle**.
Collins, *Henry F.*, a new association of gold, A., ii, 460.
Colman, *James*. See *Siegmund* **Gabriel**.
Colmann, *Friedrich*. See *Otto* **Wallach**.
Colomba, *Luigi*, jadeïtite from Cassine (Acqui), A., ii, 612.
—— variety of ptilolite from the Island of Principe Rodolfo, A., ii, 668.
Colson, *Albert*, inversion points of heats of dilution, A., ii, 4.
—— dilution constant of saline solutions, A., ii, 198.
—— Egyptian metallic tools, A., ii, 398.
—— heat of dilution of sodium sulphate, A., ii, 551.
Comanducci, *E.* See *Arnaldo* **Piutti**.
Comella, *M.* See *E.* **Mameli**.
Coninck. See **Oechsner de Coninck**.
Conrad, *Max*, and *H.* **Reinbach**, esters of anilinomalonic acid and their derivatives, A., i, 210
—— —— halogen-substituted malonic acids and their derivatives, A., i, 529.
Conradi, *H.*, autolysis and blood-clotting, A., ii, 35.
—— formation of bactericidal substances in autolysis, A., ii, 35.
Consonno, *Fortunato*. See *Fritz* **Ullmann**.
Contardi, *A.* See *Attilio* **Purgotti**.
Cook, *Alfred N.*, derivatives of phenyl ether, II., A., i, 92.
Cooke, *H. L.* See *H. T.* **Barnes**.
Coomára-Swámy, *Ananda K.*, crystalline limestones of Ceylon, A., ii, 567.
Coops, *Gerrit Hendrik*, action of hydrogen chloride on aqueous formaldehyde, A., i, 77.
—— action of ethyltrioxymethylene chloride on ethyl sodiomalonate, A., i, 258.
Copaux, alkali cobaltioxalates, A., i, 586.
Coppadoro, *Angelo*, affinities of the halogenated hydroxybenzoic acids in relation to their constitution, A., i, 783.
—— influence of the separation of sulphur on the precipitation of iron salts, A., ii, 33.
Coppalle, *A.*, influence of the amount of iron when titrating zinc with sodium sulphide, A., ii, 357.
Coppet, *Louis Casimir de*, heptahydrate of sodium sulphate, A., ii, 255.
Coppet, *Louis Casimir de*, and *W.* **Muller**, temperature of maximum density and electrical conductivity of solutions of barium bromide and iodide, and calcium chloride, bromide, and iodide, A., ii, 488.
Cordier von Lowenhaupt, *Victor*, action of bromine on metallic silver in the light and in darkness, A., ii, 18.
—— a reaction of iron and steel, A., ii, 457.
Cormimbœuf, *H.*, estimation of vanadium, A., ii, 584.
Cottrell, *F. G.* See *Jacobus Henricus van't* **Hoff**.
Cornwall, *H. B.*, greenockite on calcite from Joplin, Missouri, A., ii, 567.
Coughlin, *Paul*, preparation of bromoform by electrolysis, A., i, 197.
Councler, *Constantin*, the supposed conversion of boron into silica and of boric acid into silicic acid, A., ii, 70.
—— concretions from the urinary duct of a wild boar and from the kidney of a deer, A., ii, 96.
Cousin, *H.*, action of nitric acid on trichloro- and tribromo-veratrole, A., i, 288.
Cownley, *Alfred John*. See *Benjamin Horatio* **Paul**.
Cramer, *Wilhelm*. See *Ernest F.* **Bashford**.
Crampton, *Charles A.*, the influence of the growth of mould on the chemical composition of oleomargarine and butter, A., ii, 709.
Cremer, *J.* See *Alexander* **Tschirch**.
Cremer, *Max*, the value of rhamnose in the animal organism, A., ii, 154.
Cremer, *Max*, and *M.* **Henderson**, the physiolcgical proteid minimum, A., ii, 155.
Cremer, *Willy*. See *Emil* **Knoevenagel**.
Crépieux, *Pierre*. See *Frédéric* **Reverdin**.
Creydt, *Conrad von* **Seelhorst**, and **Wilms**, drainage water, A., ii, 45.
Crocker, *James Codrington*, the picriminothiocarbonic esters, T., 436; P., **1902**, 57.
—— formation of dinitrophenoxazines, A., i, 566.
Croftan, *Alfred C.*, diastatic ferment of the suprarenal body, A., ii, 465.
—— the circulation of the bile acids, A., ii, 573.
Crofts, *James Murray*. See *Robert Selby* **Morrell**.
Crompton, *Holland*, specific heat of gases, P., **1902**, 188; discussion, P., 189.

Crompton, *Holland*, the specific heat of liquids, P., **1902**, 236.
Crookes, *Sir William*, radioactivity and the electron theory, A., ii, 374.
—— stratifications of hydrogen, A., ii, 374.
Crossley, *Arthur William*, preparation and properties of 4-isopropyldihydroresorcin, T., 675; P., **1901**, 172; **1902**, 86.
Crossley, *Arthur William*, and *Henry Rondel* **Le Sueur**, substituted dihydrobenzenes. Part I. $\Delta^{2:4}$-Dimethyldihydrobenzene, T., 821; P., **1901**, 245.
—— 3:5-dichloro-*o*-xylene and 3:5-dichloro-*o*-phthalic acid, T., 1533; P., **1901**, 190.
—— action of phosphorus haloids on dihydroresorcins. Part I. Dimethyldihydroresorcin, P., **1902**, 238.
Crotogino, *F.* See *H.* **Nissenson.**
Crouzel, *Ed.*, reaction for santonin in urine, A., ii, 544.
Cuénot, *L.*, the respiratory value of coelomic fluid in certain Invertebrates, A., ii, 215.
Curie, *P.*, conductivity of liquid dielectrics under the influence of radium or Röntgen radiations, A., ii, 298.
Curie, *P.*, and (*Madame*) *Sklodowska* **Curie,** radioactive substances, A., ii, 190.
Curie, *P.*, and *A.* **Debierne,** induced radioactivity excited by radium salts, A., ii, 58.
Curie, (*Madame*) *Sklodowska*, the atomic weight of radium, A., ii, 562.
Curtel, some sources of error in the estimation of the volatile acidity of wines, A., ii, 55.
Curtius, *Theodor*, syntheses with hippurazoimide, A., i, 844.
Curtius, *Theodor*, and *August* **Darapsky**, 4-methylbenzylazoimide, A., i, 844.
Curtius, *Theodor*, and *Hartwig* **Franzen**, benzylidenehydrazine, A., i, 831.
—— —— preparation of hydrazides from diammonium salts, A., i, 832.
Curtius, *Theodor*, and *Robert* **Leimbach**, hydrazides and azoimides of organic acids. XXVI. Hydrazide [and azoimide] of pyromucic acid, A., i, 302.
Curtius, *Theodor*, and *Heinrich* **Thyssen**, hydrazides and azoimides of organic acids. XXV. Hydrazide [and azoimide] of α-thiophencarboxylic acid, A., i, 304.
Cushman, *Allerton Seward*, some complex compounds of thallium, and the constitution of double salts, A., ii, 322.
Cushny, *Arthur R.*, saline diuresis, A., ii, 276.
Cutolo, *Alessandro*, analysis of oils, A., ii, 184.
Cutter, *William D.*, and *William J.* **Gies**, tendon mucoid, A., i, 67.
Cuvelier, *Léon.* See *Hector* **Rulot.**
Cyon, *E. von*, physiology of the hypophysis, A., ii, 162.
Czapek, *Friedrich*, nitrogen supply and proteid formation in plants, A., ii, 280.
Czepinski, *Vincent*, some measurements with gas elements, A., ii, 298.

D.

D'Achiardi, *Giovanni*, geocronite from Val di Castello, Tuscany, A., ii, 211.
—— thomsonite and apophyllite from Schiket (Colonia Eritrea), A., ii, 408.
Dafert, *Franz W.*, and *F.* **Pilz**, mixtures of Martin-slag and degelatinised bone-meal as diluents for basic slag, A., ii, 103.
Dains, *Frank Burnett*, preparation and reactions of derivatives of formamidines, A., i, 602.
Dakin, *Henry Drysdale*, use of persulphates in analysis, A., ii, 533.
—— volumetric estimation of the double phosphates of ammonium with cadmium, cobalt, manganese, and zinc, A., ii, 628.
Dakin, *Henry Drysdale.* See also *Julius Berend* **Cohen.**
Dales, *Benton.* See *Louis Munroe* **Dennis.**
Dalle, *Paul*, trimethylenecarbinol and its derivatives, A., i, 525.
Dammann, *Kurt*, and *Ludwig* **Gattermann**, anthraquinone, A., i, 795.
Dammann, *Kurt.* See also *Conrad* **Willgerodt.**
Danysz, *Jean*, properties and nature of mixtures of toxins with their antitoxins, A., ii, 575.
Danziger, *J. L.*, qualitative test for cobalt, A., ii, 533.
Danziger, *J. L.* See also *H. C.* **Sherman.**
Darapsky, *August.* See *Theodor* **Curtius.**
D'Arcy, *R. F.*, decomposition of hydrogen peroxide by light, and the electrical discharging action of this decomposition, A., ii, 297.
Darling, *Charles Robert*, method of collecting solid carbon dioxide for lecture purposes, A., ii, 500.
D'Arsonval. See **Arsonval.**
Darzens, *Georges*, essence of ylang-ylang, A., i, 301.

Darzens, *Georges*, and *P.* **Armingeat**, use of sodium salicylate in the estimation of mixtures of terpene-alcohols and their ethers, A., ii, 178.

Dauvé, preparation of standard solutions of sulphuric acid by electrolysis, A., ii, 690.

David, *Elkan*, and *Stanislaus von* **Kostanecki**, 2-hydroxychromone, A., i, 690.

Davis, *Bernard F.* See *Arthur Robert* **Ling**.

Davis, *Charles Benson*, a new form of alkalimeter, A., ii, 428.

Davis, *Frederick*, chemistry of *Solanum Dulcamara*, A., ii, 686.

Davis, *William Alfred*, 2:4-dibromo-5-nitro- and 2:4-dibromo-3:5-dinitrotoluenes, and their behaviour on reduction, T., 870; P., **1902**, 118.

Dawson, *Harry Medforth*, the molecular complexity of acetic acid in chloroform solution, T., 521; P., **1902**, 69.

—— the solvent properties of mixed liquids in relation to the chemical characters and solvent properties of their components, T., 1086; P., **1902**, 179.

Dawson, *Harry Medforth*, and *R.* **Gawler**, the existence of polyiodides in nitrobenzene solution, I., T., 524; P., **1902**, 69.

Dawson, *Harry Medforth*, and *F. E.* **Grant**, a method of determining the ratio of distribution of a base between two acids, T., 512; P., **1902**, 68.

Dawson, *Harry Medforth*. See also *Jacobus Henricus van't* **Hoff**.

Debierne, *A.* See *P.* **Curie**.

Decker, *Herman*, nitroquinolones and nitrocarbostyrils, A., i, 494.

—— ammonium compounds. VIII. History of hydroxydihydro-bases, A., i, 691.

—— ammonium compounds. IX. Theory of hydroxydihydro-bases, A., i, 691.

Decker, *Herman*, *Th.* **Hock**, and *C.* **Djiwonsky**, some ammonium compounds. X. Hydroxyphenylmethyldihydroacridine, A., i, 830.

Decker, *Herman*, and *Basil von* **Solonina**, nitrosophenol dyes, I., A., i, 767.

Deckert, *Hans*. See *Hermann* **Thiele**.

Dehérain, *Pierre Paul*, and *Em.* **Demoussy**, cultivation of clover on soils without calcium carbonate, A., ii, 167.

—— —— cultivation of lucerne on soils without calcium carbonate, A., ii, 283.

—— —— decomposition of carbon dioxide by insolated leaves, A., ii, 624.

Dehérain, *Pierre Paul*, and *C.* **Dupont**, origin of starch in wheat grain, A., ii, 100.

—— —— cultivation of mangels on the experimental fields at Grignon in 1900 and 1901, A., ii, 526.

Dehn, *William M.* See *Arthur W.* **Palmer**.

Deiglmayr, *Ivo*, automatic regulation of the evolution of carbon dioxide or nitrogen in combustions, A., ii, 474.

Delacre, *Maurice*, researches on the isomerisation of pinacone and its derivatives, A., i, 79.

—— action of phosphorus chlorides on organic acids; preparation of trichloroacetyl chloride, A., i, 527.

—— gradual synthesis of the benzene chain, A., i, 774.

—— synthesis of polycyclic hydrocarbons, A., i, 783.

Delamare, *Gabriel*. See *A.* **Guillemonat**.

Delange, *Raymond*. See *Charles* **Moureu**.

Delattre, *J.* See *L.* **Malpeaux**.

Delépine, *Marcel*, action of fuming sulphuric acid on acetaldehyde, propaldehyde, and acetone, A., i, 133.

—— preparation and properties of iminodithiocarbonic esters, A., i, 199.

—— action of alkyl haloids on the thiocarbonates of secondary amines [tetra-alkylformocarbothialdines], A., i, 353.

—— dithiocarbamic esters derived from primary amines, A., i, 595, 702.

—— sulphur and nitrogen derivatives of carbon disulphide; mixed iminodithiocarbonic esters, A., i, 597.

—— sulphur and nitrogen derivatives of carbon disulphide. V. Dithiocarbamic ester derived from secondary aromatic amines. VI. Aromatic iminodithiocarbonic esters, A., i, 702.

—— sulphur and nitrogen derivatives of carbon disulphide. VII. Dithiocarbamic esters derived from primary amines, A., i, 702.

Delezenne, *C.*, kinases of microbic origin, A., ii, 615.

—— a ferment in leucocytes and lymph glands which favours tryptic activity, A., ii, 616.

—— kinase in snake venom, A., ii, 680.

Dellschaft, *F. H.*, hydrazide and azide [azoimide] of palmitic acid, A., i, 142.

Demichel, *A.*, density of sucrose in aqueous solution, A., i, 264.

—— the "natromètre," A., ii, 530.

—— capillary constants of sugar solutions, A., ii, 703.

Demjanoff, *Nicolaus I.*, action of bromine on methyltrimethylene in absence of light, A., i, 334.
Demoussy, *Em.* See *Pierre Paul* **Dehérain**.
Demuth, *Ed.* See *Eugen* **Bamberger**.
Denguin, *Anatol.* See *Friedrich* **Kehrmann**.
Denigès, *Georges*, detection and estimation of traces of antimony in presence of large quantities of arsenic, A., ii, 52.
—— estimation of citric acid in milk, A., ii, 365.
Denison, *R. B.* See *Bertram D.* **Steele**.
Dennis, *Louis Munroe*, and *Benton* **Dales**, rare earths of the yttrium group, I., A., ii, 456.
Dennison, *Charles H.* See *Augustus H.* **Gill**.
Dennstedt, *Maximiliano*, decomposition of albumin, A., i, 128.
—— preparation of indoles from pyrroles, A., i, 396.
—— [electrolytic reduction of pyrroles], A., i, 488.
Densch, *Alfred.* See *Wilhelm* **Wislicenus**.
Derby, *Orville Adelbert*, occurrence of monazite in iron-ore and in graphite, A., ii, 331.
Desch, *Cecil H.* See *Arthur* **Hantzsch**.
Descudé, *Marcel*, chloromethyl benzoate and methylene dibenzoate, A., i, 149.
—— new compounds of methylene, A., i, 339.
—— the reaction between acid chlorides and formaldehyde, A., i, 451.
—— action of acid chlorides and anhydrides of the fatty series on trioxymethylene, A., i, 738.
Desfontaines, *Marcel*, action of aluminium chloride on certain anhydrides in chloroform solution, A., i, 258.
Desgrez, *Alexandre*, influence of choline on secretions, A., ii, 574.
Desgrez, *Alexandre*, and *Aly* **Zaky**, influence of lecithin on the development of the skeleton and nervous system, A., ii, 465.
—— —— action of lecithin on the animal organism, A., ii, 575.
Deslandres, *Henri*, band spectra of nitrogen, A., ii, 373.
Desmots, *Henri.* See *Charles* **Moureu**.
Desmoulière, *A.*, detection of gelatin and gelose in jams, A., ii, 588.
—— the colouring matter and the sugars of apricots, A., ii, 685.
Desmoulière, *A.* See also *L.* **Portes**.
Destraz, *Henry.* See *Eugen* **Bamberger**.
Dettmer, *H.* See *Wilhelm* **Marckwald**.
Deussen, *Ernst*, West Indian sandalwood oil, A., i, 552.
Deutsche Gold- & Silber-Scheide-Anstalt, alkali cyanamides, A., i, 354.
Devaux, *Henri*, a permanent action which tends to produce a negative tension in the vessels of wood, A., ii, 624.
Dewar, *James*, specific volumes of oxygen and nitrogen vapour at the boiling point of oxygen, A., ii, 304.
Dhommée, *René*, action of ammonia on benzyl chloride, and the conditions of formation of benzylamine, A., i, 24.
—— some salts of benzylamine, A., i, 601.
Dibdin, *William Joseph*, and *Robert George* **Grimwood**, detection and estimation of minute quantities of hydrogen sulphide in coal-gas, A., ii, 582.
Dieckmann, *Wilhelm*, 1:2-diketopentamethylene (Δ^2-cyclopentene-1-one-2-ol) and derivatives, A., i, 786.
Diels, *Otto*, action of semicarbazide on diacetyl, A., i, 205.
Diels, *Otto*, and *Arthur* **Bibergeil**, 2:2′-diphenol, A., i, 219.
Diels, *Otto*, and *Hans* **Jost**, preparation of diacetyl and a polymerisation product of diacetyl, A., i, 744.
Diels, *Otto*, *Emil* **Schill**, and *Stanley* **Tolson**, nitration of 2-aminofluorene, A., i, 758.
Diels, *Otto*, and *Otto* **Staehlin**, preparation and properties of some quinoline bases of fluorene and fluorenone, II., A., i, 829.
Diepolder, *Emil*, oxidation products of *o*-aminophenol, A., i, 830.
Dierig, *Wolfgang*, action of *p*-tolualdehyde on 2-picoline and 6-phenyl-2-methylpyridine, A., i, 826.
Diesselhorst, *G.* See *Ludwig* **Brieger**.
Dietrich, *Karl*, dried brandy residues, A., ii, 285.
Dietrich, *Th.*, dried brewers' grains, A., ii, 166.
—— dried distillery grains, A., ii, 166.
Dietze, *Albert*, influence of hydroxides of barium, calcium, and strontium on tryptic digestion, A., ii, 272.
Dilthey, *Alfred.* See *Emil* **Fischer**.
Dilthey, *Walter.* See *Henri* **Moissan**.
Dimroth, *Otto*, synthesis of derivatives of 1:2:3-triazole, A., i, 403.
—— isomerism of the α-triazole compounds, A., i, 403.
—— formation of aromatic mercury compounds, A., i, 656.
—— condensation of carbon tetrachloride with ethyl malonate and ethyl cyanoacetate, A., i, 740.

Dimroth, *Otto*, [and, in part, *Richard* **Metzger**], [formation of aromatic mercury compounds], A., i, 849.

Dimroth, *Otto*, and *Rudolf* **Zoeppritz**, condensation of aromatic aldehydes with amines, A., i, 292.

—— —— synthesis of aromatic hydroxyaldehydes, A., i, 293.

Dinesmann, *M.*, preparation of thymol, A., i, 368.

Di Nola. See **Nola.**

Dito, *J. W.*, the densities of mixtures of hydrazine and water, A., ii, 499.

Dito, *J. W.* See also *Cornelis Adriaan Lobry de* **Bruyn.**

Ditte, *Alfred*, crystallisation of chromic oxide, A., ii, 264.

—— crystallisation of peroxide of iron, A., ii, 326.

Dittmar, *Rudolf*, behaviour of crude caoutchouc towards concentrated nitric acid, A., i, 386.

—— derivatives of milk sugar, A., i, 532.

Dittrich, *Max*, and *C.* **Hassel**, quantitative separations by persulphates in acid solution, A., ii, 693.

Ditz, *Hugo*, bleaching powder, A., ii, 656.

Ditz, *Hugo*, and *B. M.* **Margosches**, influence of the concentration of the hydrogen ions on the action of iodates on haloid salts, A., ii, 12.

Divers, *Edward*, and *Masataka* **Ogawa**, preparation of sulphamide from ammonium amidosulphite, T., 504; P., **1902**, 71.

Dixon, *Augustus Edward*, the action of phosphorus thiocyanate on alcohol, T., 168; P., **1901**, 260.

—— the action of metallic thiocyanates on carbonyl chloride, P., **1902**, 240.

Djavachoff, *A.*, borates of hydrazine, A., ii, 317.

Djiwonsky, *C.* See *Herman* **Decker.**

Dobbie, *James Johnstone*, and *Alexander* **Lauder**, corydaline. Part VII. The constitution of corydaline, T., 145; P., **1901**, 252.

—— —— the relationships of corydaline to berberine; berberidic acid, T., 157; P., **1901**, 255.

Dobbie, *James Johnstone.* See also *Walter Noel* **Hartley.**

Dodge, *Frank Despard*, the constitution of camphene, A., i, 807.

Doebner, *Oscar* [*Gustav*], synthesis of muconic acid from glyoxal and malonic acid, A., i, 343.

—— unsaturated acids of the sorbic acid series and their transformation into cyclic hydrocarbons, A., i, 598.

Doebner, *Oscar*, [and, in part, *A.* **Weissenborn**], unsaturated acids with two double linkings; the homologues of sorbic acid, A., i, 340.

Doelter, *Cornelius*, fusibility of minerals and their solubility in magmas, A., ii, 28.

—— density of fluid and solid magmas, A., ii, 332.

Döring, *Theodor*, behaviour of chromium prepared by the "alumino-thermal method" towards hydrochloric acid, A., ii, 660.

Doht, *Walther.* See *Alfred* **Stock.**

Dojarenko, *A.*, nitrogen of humus, A., ii, 285.

Dolezalek, *F.* See *Friedrich* **Kohlrausch.**

Doll, *P.* See *C.* **Beger.**

Dollfus, *Fritz E.* See *Arthur* **Hantzsch.**

Dombrowski, *S.*, separation of ternary compounds and bases from animal or vegetable liquids, A., ii, 633.

—— nitrogenous compounds and alkaloids of normal urine, A., ii, 633.

Donchi, *M.* See *Adolf* **Pinner.**

Dongier, and *Pierre* **Lesage**, electrical resistance, index of refraction, and rotatory power of normal serum, A., ii, 411.

Dongier. See also *Pierre* **Lesage.**

Donnan, *Frederick George*, condensation of the vapours of organic liquids in presence of dust-free air, A., ii, 302.

Donnan, *Frederick George*, and *Henry* **Bassett**, *jun.*, [and, in part, *Charles James John* **Fox**], the colour changes exhibited by the chlorides of cobalt and some other metals, from the standpoint of the theory of electroaffinity, T., 939; P., **1902**, 164.

Donnan, *Frederick George.* See also *Edward Charles Cyril* **Baly**, and *Jacobus Henricus van't* **Hoff.**

Dorez, *E.* See *L.* **Malpeaux.**

Douglas, *James M.* See *Harry Clary* **Jones.**

Downer, *W. R.* See *Oswald* **Schreiner.**

Dowzard, *Edwin*, the estimation of strychnine and brucine in nux vomica, P., **1902**, 220.

Doyon, *Maurice*, and *Albert* **Morel**, lipolytic function of the blood, A., ii, 411.

—— —— does lipase exist in the serum? A., ii, 464.

—— —— disappearance of ethers normally existing in the blood, A., ii, 571, 672.

—— —— does lipase exist in the blood? A., ii, 571.

—— —— lipase, A., ii, 672.

Doyon, *Maurice*, and *Albert* **Morel**, glycerol in the blood, A., ii, 672.
Drescher, *Bruno*. See *Daniel* **Vorländer**.
Drexler, *Paul*. See *Adolf* **Pinner**.
Drossbach, *G. Paul*, ultra-violet absorption spectra, A., ii, 190, 374.
—— chemistry of monazite sand, A., ii, 659.
Drucker, *Karl*, dissociation relationships of ternary electrolytes, A., ii, 3.
—— solubility of silver sulphate and mercurous sulphate, A., ii, 74.
—— velocity of solution, A., ii, 248.
Drude, *Paul*, improvement of apparatus employed for the measurement of the dielectric constant, A., ii, 439.
Dubat, *Georges*, composition of the reserve carbohydrates of the proteid of the seeds of some Liliaceæ and in particular of butcher's broom, A., ii, 99.
Duboin, *André*, compounds of alumina and chromium sesquioxide, A., ii, 400.
Dubois, *Raphael*, auto-regulation of "energetic" functions by carbon dioxide, A., ii, 573.
Dubusc, *Robert*. See *Franz* **Feist**.
Ducatte, *Fernand*, preparation and properties of lead chloro-, bromo-, and iodo-thiobismuthites, A., ii, 402.
—— copper chloro-, bromo-, and iodobismuthites, A., ii, 503.
Ducceschi, *Virgilio*, the aromatic group of the proteid molecule, A., i, 192.
Duden, *Paul*, and *R.* **Lemme**, βε-hexanediol and its derivatives, A., i, 337.
Dudley, *William L.*, action of fused sodium dioxide on metals, A., ii, 564.
Dufau, *Émile*. See *Gustave* **Patein**.
Dufet, *Henri*, crystalline forms of sulphates of neodymium, praseodymium, and samarium, A., ii, 326.
Dufty, *Lawrence*, volumetric estimation of manganese, A., ii, 107.
Dugast, *J.*, estimation of volatile acids in wine, A., ii, 235.
Duguet, sulphamides and sulphanilides of the aliphatic series, A., i, 428.
Duhem, *Pierre*, fusion and crystallisation: the theory of Tammann, A., ii, 61.
Dumont, *J.*, causes of sterility in peat soils, A., ii, 169.
Dunlap, *Frederick L.*, production of acylamines, A., i, 756.
Dunn, *John Thomas*, the density of aqueous solutions of ferrous chloride, A., ii, 400.
Dunstan, *Wyndham Rowland*, and *Thomas Anderson* **Henry**, cyanogenesis in plants. Part II. The great millet, *Sorghum vulgare*, A., ii, 578.
Duphil, *H.*, the air of the sea and of maritime pine forests, A., ii, 204.
Dupont, *C.*, aërobic fermentation of farmyard manure, *A.*, ii, 577.
Dupont, *C.* See also *Pierre Paul* **Dehérain**.
Dupré, *jun.*, and *A. von* **Kupffer**, stability of potassium tetraoxalate and sodium oxalate, A., ii, 424.
Dupré, *Auguste*, estimation of perchlorate in saltpetre, A., ii, 529.
Durand, *E.*, estimation of nitrogen, A., ii, 224.
Du Roi, and **Köhler**, detection of heated milk, A., ii, 539.
Duval, *H.*, action of cyanogen chloride on sodium camphor, A., i, 106.
Duyk, *Maurice*, nickel salts as reagents for reducing sugars, A., ii, 54.
—— detection and estimation of methyl alcohol in commercial formaldehyde, A., ii, 110.
Dwelshauvers-Dery, *F. V.*, physical purity of liquids, A., ii, 644.
Dybowski, *B.*, and *Arthur* **Hantzsch**, supposed isomerism of diazothiosulphonates, A., i, 249.
Dybowski, *J.*, and *Edouard* **Landrin**, physiological properties and composition of iboga; presence of a new alkaloid, ibogaine, A., i, 114.
Dyson, *Gibson*, and *Arthur* **Harden**, the combination of carbon monoxide with chlorine under the influence of light, P., **1902**, 191; discussion, P., 191.

E.

Eakle, *Arthur S.*, mineralogical notes, with analyses by W. T. Schaller, A., ii, 213.
Easterfield, *Thomas Hill*. See *William Hobson* **Mills**.
Ebaugh, *W. Clarence*, atomic weight of arsenic, A., ii, 499.
Eberle, *G.*, and *Fr.* **Ulffers**, wool mordants, A., ii, 636.
Ebersole, *Morris R.*, minimum boiling points and vapour composition, II., A., ii, 196.
Ebler, *Erich*. See *Emil* **Knoevenagel**.
Eccles, *David C.* See *Marston Taylor* **Bogert**.
Eckstädt, *Adolf*, reaction between nitric acid and hydrogen iodide, A., ii, 130.
Eckstein, *Karl*. See *Julius* **Tafel**.
Edgren, *J. Edv.*, melanterite from Falun, Sweden, A., ii, 612.
Edinger, *Albert*, and *W.* **Arnold**, acridine, II., A., i, 181.
Edinger, *Albert*, and *John B.* **Ekeley**, basic properties of sulphur, A., i, 230

Edwards, *C. H.* See *Yandell* **Henderson.**
Effront, *Jean*, fractional precipitation of proteids by salts, A., i, 578.
Egidi, *U.* See *Clemente* **Montemartini.**
Eginitis, *B.*, the constitution of matter and spectroscopy, A., ii, 437.
Egli, *Jacob*, theory of the electrolytic extraction of copper, A., ii, 323.
Ehrenfeld, *R.*, action of nascent chlorine on proteids, A., i, 511.
Ehrenfeld, *R.* See also *Josef* **Habermann.**
Ehrich, *E.*, proteid-dissolving enzyme in malt, A., i, 252.
Ehrlich, *Felix*, *m*-cyanobenzyl chloride, A., i, 25.
Ehrmann, *C.*, and *H.* **Lovat**, estimation of tartaric acid in grape marc, A., ii, 480.
Ehrmann, *C.*, and *J.* **Slaus-Kantscheider**, assay of Dalmatian mercury ores, A., ii, 359.
Eibner, *Alexander*, and *H.* **Merkel**, bromo-derivatives of quinophthalone, A., i, 494.
—— —— isomeride of quinophthalone, A., i, 644.
Eidmann, *Wilhelm.* See *Ludwig* **Moeser.**
Eijk, *Cornelis van*, a method for separating crystals from alloys, A., ii, 496.
Einhorn, *Alfred*, compounds of 1-phenyl-2:3-dimethyl-5-pyrazolone and its derivatives with the methyl aminohydroxybenzoates, A., i, 497.
Einhorn, *Alfred*, and *Ludwig* **Klages**, derivatives of β-methylpimelic acid, A., i, 74.
Einhorn, *Alfred*, and *August* **Prettner**, triethyltrimethylenetriamine, A., i, 840.
Einhorn, *Alfred.* See also *Rudolph* **Bauer**, and *Otto* **Buhlmann.**
Eisenberg, *Phillippe*, specific precipitins, A., i, 846.
Eisenhuth, *K.*, "bitter-spars," A., ii, 330.
Eisenlohr, *Hermann.* See *August* **Michaelis.**
Eisenstein, *Karl.* See *Josef* **Herzig.**
Ekbom, *Alfred*, *p*-nitrobenzenesulphonic acid, A., i, 274.
—— action of sulphur dioxide on *p*-nitrodiazobenzene, A., i, 327.
Ekeley, *John B.* See *Albert* **Edinger.**
Ellinger, *Alexander*, natural immunity against alkaloids, A., ii, 162.
—— lymph formation and bile secretion, A., ii, 614.
Elze, *Fritz.* See *Paul* **Rabe.**
Embden, *Gustav*, the formation of conjugated glycuronic acid in the liver, A., ii, 677.
Embden, *Gustav*, and *Karl* **Glaessner**, formation of ethereal sulphate in the animal body, A., ii, 158.
Emerson, *R. L.*, occurrence of *p*-hydroxyphenylethylamine in pancreatic digestion; fermentative origin of carbon dioxide, A., ii, 271.
Emery, *W. D'Este*, chemical action of the *Microsporon audouini*, A., ii, 38.
Emery, *William O.*, derivatives of pyrimidine, A., i, 187.
Emich, *Friedrich*, microchemical test for alkalis and acids; detection of small quantities of ozone and water, A., ii, 45.
—— litmus-silk, A., ii, 351.
Emmerling, *Oskar*, action of sunlight on enzymes, A., i, 195.
—— synthetical action of yeast maltase, A., i, 196.
—— presence of *n*-butyl alcohol in fusel oil from grain, A., i, 253.
—— fission of albumin by papayotin, A., i, 407, 408.
—— amino-acids as food material for lower forms of plant life, A., ii, 521.
—— estimation of ammonia in waters, A., ii, 535.
Emmerling, *Oskar*, and *Otto* **Reiser**, bacteria which hydrolyse albumin, A., ii, 279.
Emszt, *Koloman*, silver subhaloids, A., ii, 73.
Endres, *Anton.* See *Wilhelm* **Wislicenus.**
Endres, *Rudolph.* See *Otto* **Fischer.**
Engelhardt, *Rud.*, esters derived from 2:3-methoxynaphthol, A., i, 674.
Engelmann, *Max.* See *Max* **Guthzeit.**
Engler, *Carl*, and *Lothar* **Wöhler**, pseudo-catalytic carrying of oxygen, A., ii, 127.
Englisch, *O.* See *Theodor* **Remy.**
Ennenbach, *Karl*, effect of kainite as manure on the germination and growth of various plants, A., ii, 622.
Ephraim, *Fritz*, action of sulphuryl chloride on urethane, A., i, 269.
Eppenstein, *Georg.* See *August* **Michaelis.**
Erb, *E. S.* See *F. J.* **Pond.**
Erber, *J.* See *Gustav* **Schultz.**
Erdmann, *Ernst*, new bases from anhydroformaldehydeaniline [methyleneaniline] and its homologues, A., i, 91.
—— preparation of aromatic bases [by the aid of formaldehyde], A., i, 91.
—— oil of jasmine blossoms, A., i, 229.
—— oil of coffee, A., i, 551.
—— furfuryl alcohol, A., i, 553.
—— detection and estimation of methyl anthranilate, A., ii, 292.
Erdmann, *Hugo*, preparation of indigotin, A., i, 290.
—— the behaviour of magnesium chloride in river waters, A., ii, 454.
Ericson-Aurén, *Tycho*, and *Wilhelm* **Palmaer**, dissolution of metals, A., ii, 64.

Erlenmeyer, *Emil*, *jun.*, isomeric *cis-trans*-α-keto- and α-hydroxy-lactones and selection in the formation of compounds with several asymmetric carbon atoms, A., i, 543.
—— azlactones and the conversion of pyroracemic acid into methylpyruvic acid, A., i, 595.
—— the theory of partial valencies, A., ii, 389.
Erlenmeyer, *Emil*, *jun.*, and *Julius* **Kunlin**, synthesis of α-naphthoic acid and naphthalene, A., i, 225.
—— —— transformation of glyoxylic acid into glycine by the action of ammonia, A., i, 594.
Ernst, *Waldemar*. See *Conrad* **Willgerodt**.
Errera, *Giorgio*, desmotropism in the pyridine series, A., i, 115.
—— mixed methenyl compounds. IV. Synthesis of 2:5-lutidine [2:5-dimethylpyridine], A., i, 117.
Errera, *Giorgio*, and *E.* **Perciabosco**, action of halogens and of ethyl bromocyanoacetate on ethyl sodiocyanoacetate, A., i, 116.
Eschbaum, *Friedrich*, colorimetric estimation of mercury in urine, A., ii, 476.
—— the osazone test for the detection of sugar in urine, A., ii, 585.
Escombe, *Ferguson*. See *Horace T.* **Brown**.
Étard, *Alexandre* [*Léon*], basic products of the profound hydrolysis of muscle, A., i, 699.
—— separation of glutamic acid and leucine by gaseous hydrogen chloride, A., ii, 182.
Étard, *Alexandre*, and *A.* **Vila**, synthesis of an isomeride of leucine, A., i, 207.
Ettlinger, *Friedrich*. See *Richard* **Willstätter**.
Euler, *Hans*, theory of the velocity of chemical reactions, A., ii, 384.
Euler, *Hans*, and *Arthur* **Hantzsch**, a solid diazonium cyanide; diazoiodides, A., i, 191.
Evans, *P. N.*, double salts in solution, A., ii, 645.
Evans, *P. N.*, and *C. E.* **Vanderkleed**, dichloroacetyl phosphide, A., i, 273.
Everding, *W.* See *Franz* **Sachs**.
Eversheim, *P.*, conductivity and dielectric constant of solvents and solutions and the influence of temperature to beyond the critical point on these, A., ii, 596.
Exner, *Franz F.* See *Edgar Francis* **Smith**.
Eyk. See **Eijk**.
Eyre, *John Vargas*. See *Raphael* **Meldola**.

F.

Fages, *Juan*, action of sulphites on nitroprussides, A., ii, 472.
Fahrion, *Wilhelm*, colophony, A., i, 165, 301.
—— glutinpeptone, A., i, 846.
Faktor, *Franz*, action of sodium thiosulphate on certain metallic salts, A., ii, 25.
—— physico-chemical properties of sodium thiosulphate, A., ii, 256.
Falières, *Élie*, volumetric estimation of sodium methylarsenate, A., ii, 544.
Falloise, *Arthur*, influence of external temperature on warm-blooded animals, A., ii, 149.
—— influence of breathing an atmosphere rich in oxygen, A., ii, 149.
Falta, *W.*, oxidation of nitrogenous substances, A., i, 252.
Fanto, *Emil*. See *August* **Klages**.
Fanto, *R.* See *Simon* **Zeisel**.
Farbenfabriken vorm. *Friedr.* **Bayer & Co.**, aldehyde derivatives containing chlorine (carbonylchloroaldehydes), A., i, 78.
—— naphthalenoid thiocarbamides containing hydroxyl groups, A., i, 92.
—— acetates derived from the aromatic aldehydes, A., i, 102.
—— naphthalenoid carbamide and thiocarbamide sulphonic acids containing free hydroxyl groups, A., i, 280.
—— 2:4-dinitrostilbene and its derivatives, A., i, 364.
—— sulphonic acids of *as*-naphthalenoid thiocarbamides containing free hydroxyl groups, A., i, 366.
—— 1:4-nitroacetylaminoanthraquinone and 1:4-nitroaminoanthraquinone, A., i, 382.
—— arylaminonitroanthraquinones, A., i, 382.
—— bromo-derivatives from aminohydroxyanthraquinones, A., i, 382.
—— anthragallolsulphonic acid, A., i, 383.
—— conversion of nitroanthraquinone derivatives into the corresponding hydroxy-compounds, A., i, 383.
—— dihydroxyketoethylenedinaphthylaminedisulphonic acid, A., i, 398.
—— preparation of acetic anhydride, A., i, 418.
—— *o*-nitroanthracene [nitrosoanthranol], A., i, 448.
—— derivatives of nitroaminoanthraquinone, A., i, 476.

Farbenfabriken vorm. *Friedr.* **Bayer & Co.**, dihalogen derivatives of 1:5-diaminoanthraquinonedisulphonic acid, A., i, 476.
—— introduction of amino-radicles into 4-nitro-1-hydroxyanthraquinone-2-sulphonic acid, A., i, 476.
—— [quinizarin derivatives], A., i, 477.
—— *p*-halogen derivatives of hydroxyanthraquinones, A., i, 477.
—— [indole derivatives], A., i, 493.
—— conversion of 1-arylaminoanthraquinones into acridine derivatives, A., i, 501.
—— *α*-substituted anthraquinone derivatives containing chlorine or bromine, A., i, 721.
—— anthracene colouring matters containing nitrogen, A., i, 722.
—— hydroxypyrazolone derivatives of the naphthalene series, A., i, 730.
—— process for inoculation with soil bacteria, A., ii, 164.
Farbwerk Mühlheim vorm. *A.* **Leonhardt & Co.**, ethereal indoxylcarboxylates containing acyl groups attached to nitrogen, A., i, 456.
Farbwerke vorm. Meister, Lucius, & Brüning, preparation of hexahydrobenzylamines, A., i, 90.
—— preparation of hydrogenised cyclic aldehydes, A., i, 102.
—— cyclic dihydric alcohols, A., i, 299.
—— condensation products from 1:8-dinitronaphthalene soluble in alkali hydroxides, A., i, 363.
—— arylsulphonimides, A., i, 364.
—— phenylglycine-*o*-carboxylic acid, A., i, 367.
—— acetyl compounds of benzenoid and naphthalenoid aminosulphonic acids, A., i, 445.
—— isatoic acid, A., i, 454.
—— monohydric cyclic alcohols, A., i, 477.
Farmer, *John Bretland*, and *S. E.* **Chandler**, influence of carbon dioxide in the air on the form and internal structure of plants, A., ii, 683.
Farmer, *Robert Crosbie*. See *Percy Faraday* **Frankland**.
Farnsteiner, *K.*, boric acid, A., ii, 225.
Farrington, *Oliver Cummings*, action of copper sulphate on iron meteorites, A., ii, 569.
—— meteorite studies, A., ii, 670.
Faucon, *A.*, caffeine iodides, A., i, 485.
Faust, *Edwin S.*, bufonin and bufotalin, the active components of the secretions of the skin glands of the toad, A., i, 446.
Favrel, *G.*, action of cyanoacetic esters and of their substitution derivatives on diazonium and tetra-azonium chlorides, A., i, 329.
—— action of acylcyanoacetic esters on diazonium and tetra-azonium chlorides, A., i, 406.
—— action of the malonic esters on diazonium and tetra-azonium chlorides, A., i, 506.
—— action of substituted malonic esters on diazonium chlorides, A., i, 507.
—— action of acetylacetone and of its substituted derivatives on diazonium and tetra-azonium chlorides, A., i, 507.
—— action of alkylacetylacetones on diazonium and tetra-azonium chlorides, A., i, 508.
—— action of ethyl *β*-chloroacetoacetate on diazo-chlorides, A., i, 644.
Fay, *Henry*, and *Harrison Everett* **Ashley**, alloys of antimony and tellurium, A., ii, 266.
Fay, *Henry*, and *C. B.* **Gillson**, alloys of lead and tellurium, A., ii, 260.
Feilitzen, *Hjalmar von*, chemical changes in peat soil after several years' cultivation and manuring, A., ii, 527.
—— manurial experiments on peat land, A., ii, 527.
Feinstein, *Hermann*. See *Stanislaus von* **Kostanecki**.
Feist, *Franz*, studies in the furfuran and pyrrole groups, I., A., i, 488.
—— studies in the pyrrole group. III. Condensation of esters of isonitroso-*β*-ketonic acids with esters of *β*-ketonic acids by reduction, A., i, 489.
Feist, *Franz*, and *Erich* **Stenger**, studies in the pyrrole group. IV. Condensation of esters of amino-*β*-ketonic acids with 1:2-diketones and 1:2-ketone-alcohols, A., i, 489.
Feist, *Franz*, [and, in part, *Benno* **Widmer**, and *Robert* **Dubusc**], studies in the furfuran and pyrrole groups; condensation of esters of *β*-ketonic acids with chloroacetone and ammonia, A., i, 488.
Feist, *Franz*, [with *Benno* **Widmer**, and *J.* **Sakowitsch**], condensations of pyrroles and ethereal pyrrolecarboxylates with aromatic aldehydes, A., i, 490.
Feist, *Karl*, some derivatives of *α*-picoline, A., i, 492.
—— some derivatives of 2-picoline (nitro- and amino-stilbazoles), A., i, 642.
—— kermes mineral, A., ii, 507.
Fenton, *Henry John Horstman*, a reagent for the identification of carbamide and of certain other nitrogen compounds, P., **1902**, 243; discussion, P., 244.

Fenton, *Henry John Horstman*, and *John Henry* **Ryffel**, mesoxalic semi-aldehyde, T., 426; P., **1902**, 54.
Ferchland, *P.*, solubility of potassium hydroxide in water, A., ii, 318.
Fermi, *Claudio*, digestibility of food in the stomach, A., ii, 216.
Fernbach, *Auguste*, influence of thiocyanic acid on the growth of *Aspergillus niger*, A., ii, 577.
Ferrai, *Carlo*, duodenal digestion of proteid, A., ii, 412.
Ferrer, *Léon*, analysis of the sulphurous waters of Vernet-les-Bains, A., ii, 32.
Ferretti, *C.* See *C.* **Ulpiani**.
Feuerstein, *W.*, and *Andreas* **Lipp**, action of benzaldehyde on anisole, A., i, 768.
Fichter, *Fritz*, and *Otto* **Merckens**, *α*-phenylglutaric acid and *γδ*-diphenylallylacetic acid [*γδ*-diphenyl-*γ*-pentenoic acid], A., i, 160.
Fichter, *Fritz*, and *Benno* **Mühlhauser**, physical constants of *α*-ethylideneglutaric acid, A., i, 204.
Fichter, *Fritz*, and *Ernst* **Preiswerk**, anilinocitraconanil and its derivatives, A., i, 443.
Fichter, *Fritz*, and *Ferdinand* **Sonneborn**, vinylacetic acid, A., i, 256.
Fieber, *Rudolf*, estimation of tungsten in tungsten steel, A., ii, 176.
Fiesselmann, *Georg*. See *Gustav* **Heller**.
Findeisen, *Th. von*. See *Ernst von* **Meyer**.
Findlay, *Alexander*, the solubility of mannitol, picric acid, and anthracene, T., 1217; P., **1902**, 172.
—— method of calculating solubilities and the equilibrium constants of chemical reactions, and a formula for the latent heats of vaporisation, A., ii, 386.
Fingerling, *G.* See *C.* **Beger**.
Finkelstein, *Alexis*, passive iron, A., ii, 81.
Fiora, *Paolo*, distinction between ferric citrate and ferric potassium tartrate, A., ii, 235.
Fischer, *Emil*, derivatives of glycine, alanine, and leucine, A., i, 350.
—— betaine aurichloride, A., i, 428.
—— formation of 2-pyrrolidinecarboxylic acid by alkaline hydrolysis of casein, A., i, 640.
—— new amino-acid from gelatin, A., i, 699.
—— estimation of glycine, A., ii, 541.
Fischer, *Emil*, and *Edward Frankland* **Armstrong**, isomeric acetylhalogen derivatives of sugars and the synthesis of glucosides, A., i, 263, 746.
Fischer, *Emil*, and *Edward Frankland* **Armstrong**, preparation of osones from osazones derived from sugars, A., i, 745.
—— —— synthesis of new disaccharides, A., i, 746.
Fischer, *Emil*, and *Richard* **Blochmann**, some new indazole derivatives, A., i, 645.
Fischer, *Emil*, and *Alfred* **Dilthey**, action of ammonia on esters of alkylmalonic acids, A., i, 269.
Fischer, *Emil*, and *Rudolf* **Hagenbach**, resolution of racemic amino-acids, V., A., i, 85.
Fischer, *Emil*, and *Carl D.* **Harries**, vacuum distillation, A., ii, 491.
Fischer, *Emil*, and *Hermann* **Leuchs**, serine and isoserine, A., i, 268.
Fischer, *Emil*, *Phœbus A.* **Levene**, and *R. H.* **Aders**, hydrolysis of gelatin, A., i, 512.
Fischer, *Emil*, and *Georg* **Roeder**, synthesis of uracil, thymine, and phenyluracil, A., i, 124, 188.
Fischer, *Emil*, and *Aladar* **Skita**, fibroin and gelatin of silk, A., i, 654.
Fischer, *Emil*, and *Max Darwin* **Slimmer**, asymmetric synthesis, A., i, 621.
Fischer, *Emil*, and *Hermann* **Tüllner**, conversion of isouric acid into uric acid and thioxanthine, A., i, 664.
Fischer, *Emil*, and *Fritz* **Weigert**, synthesis of *αε*-diaminohexoic acid, A., i, 352.
Fischer, *Martin H.*, artificial parthenogenesis in Annelids, A., ii, 621.
Fischer, *Martin H.* See also *Jacques* **Loeb**.
Fischer, *Max*, experiments on potatoes, A., ii, 350.
Fischer, *Otto*, ionic phenomena exhibited by triphenylmethane colouring matters, A., i, 717.
Fischer, *Otto*, and *Rudolph* **Endres**, action of alkyl iodides on tetrahydroquinolinecarboxylic acids, A., i, 693.
Fischer, *Otto*, and *Moritz* **Rigaud**, [with *Ernst* **Becker**], benziminoazoles, A., i, 399.
Fischer, *Otto*, and *Moritz* **Rigaud**, [with *W.* **Kopp**], benziminoazoles, A., i, 188.
Fischer, *Otto*, and *Karl* **Weiss**, etherification of carbinols by alcohols, A., i, 402.
Fischer, *Th.*, and *R.* **Benzian**, double cyanides of thallium, A., i, 272.
Fischer, *W.*, and *W.* **Herz**, chromium hydroxide, A., ii, 564.
Fisher, *Walter William*, the indirect estimation of alkalis in waters, A., ii, 474.
—— alkaline waters from the lower greensand, A., ii, 570.

Fiske, *A. H.* See *Charles Loring* **Jackson.**
Fittica, *Friedrich*, oxidation of boron to silica and reduction of boric acid to silicic acid, A., ii, 70.
—— oxidation of boron and reduction of boric acid to silicon compounds, A., ii, 70.
Fittig, *Rudolph.* See *Guido* **Bodländer.**
Flachsländer, *J.* See *Gustav* **Schultz.**
Fleischmann, *Wilhelm*, specific heat of milk, A., ii, 518.
Flemming, *Walter*, rate of coagulation of colloidal silicic acid, A., ii, 646.
Fletcher, *W. M.*, "survival" respiration of muscle, A., ii, 613.
Flett, *John Smith*, volcanic dust which fell on Barbados after the St. Vincent eruption, A., ii, 513.
Fleurent, *Émile*, composition of hard wheat and the physical constitution of its gluten, A., ii, 102.
Fleury, *Gustave* [*Clement*], characteristic reaction of morphine, A., ii, 186.
Fliorow, *A.*, respiration of plants, A., ii, 344.
Floresco, *N.*, relationship of iron and pigments in the liver and skin, A., ii, 157.
Flürscheim, *Bernhard*, combination of alcohol with nitro-derivatives of styrene, A., i, 671.
Flury, *F.* See *Alexander* **Gutbier.**
Foerg, *Richard*, hepta-acetylchloromaltose, A., i, 347.
Foerster, *Fritz*, and *Alfr.* **Friessner**, electrolysis of aqueous solutions with platinised electrodes and the electrolytic formation of dithionates, A., ii, 488.
Foerster, *Fritz*, and *Erich* **Müller**, current and energy efficiencies obtainable in the electrolytic preparation of alkali hypochlorites and chlorates, A., ii, 240.
—— —— electrolysis of alkali chlorides with platinised electrodes, A., ii, 640.
—— —— the behaviour of hypochlorous acid and its salts during electrolysis, A., ii, 642.
Foerster, *Hans*, hydrazide of *m*-chlorobenzoic acid, A., i, 58.
Fokin, *S.*, linseed oil, A., i, 740.
Folin, *Otto*, estimation of sulphates in urine, A., ii, 352.
Folin, *Otto*, and *Philip A.* **Shaffer**, phosphate metabolism, A., ii, 337.
Fonzes-Diacon, *Henri.* See *Robert de* **Forcrand.**
Foote, *H. W.*, mixed crystals of copper sulphate and zinc sulphate, A., ii, 19.
—— mixed crystals of silver chlorate and sodium chlorate, and their solutions, A., ii, 453.
Forch, *Carl*, refractive indices of solutions in carbon disulphide, A., ii, 589.
Forcrand, *Robert de*, minimum value of the total heat of combination, A., ii, 60.
—— heat of formation of chlorine hydrate, A., ii, 123.
—— action of hydrogen peroxide on zinc oxide, A., ii, 322.
—— thermal equivalent of dissociation and vaporisation; the heat of solidification of ammonia, A., ii, 379.
—— the relation $(L+S)/T=Q/T_1=k$, A., ii, 379.
—— composition of chlorine hydrate, A., ii, 392.
—— composition of hydrates of gases, A., ii, 446.
—— polymerisation and heat of formation of zinc oxide, A., ii, 489.
—— hydration of zinc oxide, A., ii, 549.
—— properties and constitution of zinc peroxides, A., ii, 606.
Forcrand, *Robert de*, and *Henri* **Fonzes-Diacon**, physical properties of hydrogen selenide, A., ii, 253.
—— —— vapour tensions of hydrogen selenide and the dissociation of its hydrate, A., ii, 253.
—— —— comparison of the properties of hydrogen selenide and hydrogen sulphide, A., ii, 254.
—— —— physical properties of hydrogen telluride, A., ii, 498.
—— —— hydrides of the second [sulphur] family of metalloids, A., ii, 557.
Forcrand, *Robert de*, and *Gustave* **Massol**, latent heat of solidification of liquid ammonia, A., ii, 379.
Ford, *A. G.* See *F. J.* **Pond.**
Ford, *W. E.* See *Samuel Lewis* **Penfield.**
Forestier. See *J. Auguste* **Trillat.**
Forgan, *W. Russel.* See *Fritz* **Ullmann.**
Formenti, *Carlo*, estimation of acetic acid in lead accumulators, A., ii, 363.
—— analyses of Italian bauxite, A., ii, 569.
—— apparatus for the analysis of calcium carbide, A., ii, 583.
Formenti, *Carlo*, and *Mario* **Levi**, action of aluminium on salt solutions and on molten salts, A., ii, 141.
Forster, *Martin Onslow*, studies in the camphane series. Part VII. Conversion of hydroxycamphene into β-halogen derivatives of camphor, T., 264; P., **1902**, 25.
—— studies in the camphane series. Part IX. Comparison of bromonitrocamphane with bromonitrocamphor, T., 865; P., **1902**, 116.
—— β-bromocamphor, P., **1901**, 245.

Forster, *Martin Onslow*, benzylidenecamphoroxime, P., **1902**, 90.
—— the constitution of enolic benzoylcamphor, P., **1902**, 237.
—— on the isomeric benzoyl derivatives from isonitrosocamphor, P., **1902**, 238.
Forster, *Martin Onslow*, and *E. A.* **Jenkinson**, αα-benzoylnitrocamphor and αα-benzoyliodocamphor, P., **1902**, 117.
Forster, *Martin Onslow*, and (*Miss*) *Frances M. G.* **Micklethwait**, studies in the camphane series. Part VI. Stereoisomeric halogen derivatives of α-benzoylcamphor, T., 160; P., **1901**, 257.
—— —— studies in the camphane series. Part IV. *m*-Nitrobenzoylcamphor, T., 406; P., **1902**, 55.
Fortey, (*Miss*) *Emily C.* See *Sydney* **Young**.
Fortini, *V.* See *Augusto* **Piccini**.
Fortner, *Max*, some derivatives of β-cresotic acid [2-hydroxy-*m*-toluic acid], A., i, 150.
Fosse, *Robert*, amine derived from the supposed dinaphthylene glycol, A., i, 51.
—— new transformation of the two xanthhydrols into xanthenes, A., i, 171.
—— basic properties and quadrivalence of oxygen in the xanthone series, A., i, 171.
—— dibromodinaphthaxanthonium bromide and di-iododinaphthaxanthonium iodide and the bromohydrin dibromide and the iodohydrin di-iodide of the so-called dinaphthylene glycol, A., i, 304.
—— the so-called dinaphthylene glycol, A., i, 368.
—— molecular fission produced by bromine, A., i, 449.
—— oxidising properties of a pyranol, A., i, 689.
Fourneau, *Ernest.* See *Richard* **Willstätter**.
Fournier, *H.*, oxidation of benzene hydrocarbons by means of manganese dioxide and sulphuric acid, A., i, 15.
Fowler, *J. S.* See *Diarmid* **Noël-Paton**.
Fox, *Charles James John*, solubility of sulphur dioxide in aqueous salt solutions and its interaction with the salts, A., ii, 645.
Fox, *Charles James John.* See also *Frederick George* **Donnan**.
Fränkel, *Sigmund*, and *Agnes* **Kelly**, constitution of chitin, A., i, 479.
Fränkel, *Sigmund*, and *Alfred* **Wogrinz**, aroma of tobacco, A., ii, 470.
Francesconi, *Luigi*, and *O.* **Angelucci**, pernitrososantonin and its derivatives, A., i, 35.
Francesconi, *Luigi*, and *A.* **Milesi**, formation of ketoximes, A., i, 660.
Francesconi, *Luigi*, and *A.* **Parrozzani**, isomerism in the hydroxyureas, A., i, 139.
Francesconi, *Luigi*, and *L.* **Vendetti**, constitution of photosantonic and isophotosantonic acids, A., i, 545.
Franchi, *S.*, presence of jadeite rocks in the Western Alps and in Liguria, A., ii, 214.
Franchimont, *Antoine Paul Nicolas*, and *Alfred* **Lublin**, nitroamino-alcohols, A., i, 427.
Francis, *Francis Ernest*, isomeric additive compounds of dibenzyl ketone and deoxybenzoin with benzylidene-*p*-toluidine, *m*-nitrobenzylideneaniline, and benzylidene-*m*-nitroaniline, T., 441; P., **1902**, 53; discussion, P., 53.
Francis, *Francis Ernest*, and *Ernest Bowman* **Ludlam**, isomeric additive products of methyl, ethyl, and propyl benzyl ketones with benzylideneaniline, T., 956; P., **1902**, 132.
Franco, *Pasquale*, barytes from the Province Caserta, A., ii, 211.
Frank, *Franz.* See *Alfred* **Wohl**.
Frank, *Fritz*, and *Ed.* **Marckwald**, analysis of rubber-wares, A., ii, 484.
Frank, *Otto*, and *F. von* **Gebhard**, action of curare on the excretion of carbon dioxide and nitrogen, A., ii, 417.
Frank, *Otto*, and *R.* **Trommsdorff**, influence of abundant proteid food on metabolism, A., ii, 615.
Frank, *Otto*, and *Fritz* **Voit**, metabolism during curare-poisoning, A., ii, 161.
Franke, *Adolf*, a glycol isomeric with pinacone, A., i, 255.
Franke, *M.* See *Otto* **Wallach**.
Frankland, *Sir Edward*, memorial lecture on (Armstrong), P., **1901**, 193.
Frankland, *Percy Faraday*, and *Robert Crosbie* **Farmer**, liquid nitrogen peroxide as a solvent, P., **1902**, 47.
Frankland, *Percy Faraday*, *Henry Leonard* **Heathcote**, and *Clarence James* **Green**, the nitration of diethyl monobenzoyl and mono-*p*-toluoyl tartrates, P., **1902**, 251.
Frankland, *Percy Faraday*, *Henry Leonard* **Heathcote**, and (*Miss*) *Hilda Jane* **Hartle**, nitrotartaric acid and some of its ethereal salts, P., **1902**, 250.
Franklin, *Edward C.*, and *Orin F.* **Stafford**, reactions between acid and basic amides in liquid ammonia, A., i, 748.
Franz, *Arthur.* See *Otto* **Ruff**.
Franzen, *Hartwig.* See *Theodor* **Curtius**.

Fraps, *George S.*, solubility of barium sulphate in ferric chloride, aluminium chloride, and magnesium chloride, A., ii, 394.
—— estimation of sulphur in plants, A., ii, 425.
Fraps, *George S.* See also *W. A.* **Withers.**
Frasch, *G.* See *Roman* **Zaloziecki.**
Frazer, *Joseph C. W.* See *Harmon Northrup* **Morse.**
Fredenhagen, *Carl*, theory of oxidation and reduction elements, A., ii, 238.
Fredericq, *Léon*, molecular concentration of the blood and tissues of aquatic animals, A., ii, 94.
—— physiology of the gill, and osmotic pressure of the blood in the crayfish, A., ii, 151.
—— the physiological significance of salt, A., ii, 154.
—— the diurnal curve of sweat formation, A., ii, 158.
—— a new ureometer, A., ii, 186.
—— molecular concentration of solutions containing albumin and salts, A., ii, 646.
Freer, *Paul C.*, halogen derivatives of the aliphatic acids, A., i, 200.
Freer, *Paul C.*, and *Frederick G.* **Novy**, formation, decomposition, and germicidal acid of benzoyl acetyl and diacetyl peroxides, A., i, 368.
Frei, *Johannes.* See *Eugen* **Bamberger.**
French, *A. S.* See *J. A.* **Butler.**
Frentzel, *Johannes*, and *Max* **Schreuer**, physiological value of meat, A., ii, 514.
Frentzel, *Johannes*, and *Nasujirō* **Toriyama**, calorific and nutritive value of food-stuffs, A., ii, 216.
—— —— physiological value of meat extracts, A., ii, 514.
Frerichs, *Gustav*, and *N. de* **Fuentes Tapis**, evaluation of ipecacuanha root, A., ii, 711.
Frerichs, *Gustav.* See also *Heinrich* **Beckurts.**
Fresenius, *Ludwig.* See *Otto* **Wallach.**
Freund, *Martin*, and *Paul* **Bamberg**, cotarnine, A., i, 556.
Freund, *Martin*, and *Ludwig* **Mai**, artemisin, A., i, 101.
Freund, *Martin*, and *Alfred* **Schander**, thiosemicarbazide as a reagent for aldehydes and ketones, A., i, 696.
Freund, *Martin*, and *Edmund* **Speyer**, application of sodamide as a condensing agent, A., i, 584.
Freund, *Martin*, and *Georg* **Wulff**, cotarnine, A., i, 556.
Freundler, *Paul*, benzene-*p*-azobenzaldehyde, A., i, 650.
—— dibenzoylhydrazobenzene, A., i, 697.
Freundler, *Paul*, and *L.* **Béranger**, certain properties of azobenzene and hydrazobenzene, A., i, 405.
—— —— di-*p*-nitrohydrazobenzene, A., i, 650.
Freundlich, *J.*, a sharp indicator for titrating dark coloured fats, A., ii, 115.
—— calculation of the percentage of diglycerides in fat mixtures containing hydroxy-fatty acids, A., ii, 184.
Frey, *Karl Wilhelm*, and *Robert* **Hofmann**, transformation of dimethylketazine into 3:5:5-trimethylpyrazoline, A., i, 60.
Frey, *Tobias.* See *Alfred* **Werner.**
Freyer, *Franz*, estimation of alcohol in ether, A., ii, 53.
Friderich, *Louis.* See *Philippe A.* **Guye**, and *Edouard* **Mallet.**
Friedberger, *O.* See *Erich* **Müller.**
Friedel, *Jean*, chlorophyllous assimilation in the autumn, A., ii, 99.
Friedenthal, *Hans*, the absorption of substances insoluble in water, A., ii, 93.
Friedenthal, *Hans*, and *S.* **Miyamota**, chemical nature of pepsin and other digestive enzymes, A., i, 655.
Friedheim, *Carl*, and *William Hope* **Henderson**, silicovanadotungstates, A., ii, 662.
Friedheim, *Carl*, and *M. K.* **Hoffmann**, analysis of the lower oxides of molybdenum and of metallic molybdenum, A., ii, 265.
Friedländer, *Paul*, and *Paul* **Cohn**, *op*-dinitrobenzaldehyde, A., i, 790.
Friedländer, *Paul*, and *R.* **Fritsch**, dinitrocinnamic acid, A., i, 782.
Friedländer, *Paul*, and *L.* **Silberstern**, hydroxy-derivatives of naphthaquinone A., i, 793.
Friedländer, *Paul.* See also *Paul* **Cohn.**
Friedmann, *Ernst*, the constitution of proteid cystin, A., i, 731.
Friedrich, *K.*, volumetric estimation of selenium, A., ii, 693.
Fries, *Alfred.* See *Emil* **Knoevenagel.**
Friessner, *Alfr.* See *Fritz* **Foerster**, and *Ernst von* **Meyer.**
Fritsch, *R.* See *Paul* **Friedländer.**
Fritzsche, *P.*, synthesis of ethyl alcohol, A., i, 657.
Fritzweiler, *R.*, occurrence of oleodistearin in the fat of the seeds of *Theobroma Cacao*, A., ii, 470.
Frobenius, *Otto.* See *Wilhelm* **Marckwald.**
Froemsdorff, *Guido.* See *Stanislaus von* **Kostanecki.**
Fromm, *Emil*, and *Paul* **Clemens**, cyclic terpenes and camphor in the animal system, II., A., ii, 341.

Fromm, *Emil*, and *Hermann* **Hildebrandt**, cyclic terpenes and camphor in the animal system, I., A., ii, 159.
Fromm, *Paul*. See *August* **Michaelis**.
Fromme, *Johannes*, analcite in Liassic clay from Lehre, A., ii, 511.
—— brunsvigite, a new leptochlorite from the Radauthal, A., ii, 512.
Fuchs, *Julius*. See *Emil* **Knoevenagel**.
Fuentes Tapia, *N. de*. See *Gustav* **Frerichs**.
Fürth, *Otto von*, suprarenin, A., i, 68.
—— gluco-proteids of lower animals, A., ii, 35.
Fürth, *Otto von*, and *Hugo* **Schneider**, tyrosinase in animals, A., ii, 36.
Fukui, *M*. See *Mitsuru* **Kuhara**.
Fuld, *Ernst*, the compounds of proteids with metaphosphoric acid, A., i, 511.
—— lacto-serum, A., i, 845.
—— action of rennin on milk, A., ii, 415.
—— the time law of the fibrin ferment, A., ii, 675.
Fuller, *F. D*. See *Whitman H.* **Jordan**.
Funaro, *Angiolo*, chemical composition of biliary calculi, A., ii, 276.
Funcke, *Robert*. See *Friedrich* **Krafft**.
Furata, *T.*, to what extent should a soil be limed? A., ii, 689.
Fussganger, *V.*, α-naphthylamine derivatives, A., i, 279.
Fyffe, *William Alexander*. See *James* **Walker**.

G.

Gabler, *Max*. See *Ludwig* **Wolff**.
Gabriel, *Siegmund*, amino-derivatives of pyrimidine, A., i, 59.
Gabriel, *Siegmund*, and *James* **Colman**, derivatives of cinchomeronic acid, A., i, 401, 840.
—— —— the methylated pyrimidines, A., i, 498.
—— —— 4-hydroxyisocarbostyril, II., A., i, 642.
Gabutti, *Emilio*, alkoxides of bromal, A., i, 261.
—— action of aluminium chloride on *m*-phenylenediamine nitrate, A., i, 312.
Gadamer, *Johannes*, *Dielytra spectabilis*, A., i, 52.
—— relationship of canadine to berberine, A., i, 173.
—— hyoscine and atroscine, A., i, 173.
—— tropic acids and the optical function of the asymmetric carbon atoms in tropine and ecgonine, A., i, 174.
—— constitution of berberine, A., i, 555.
Gadamer, *Johannes*, [with *H.* **Ziegenbein**, and *H.* **Wagner**], Corydalis alkaloids, A., i, 306, 391.
Gaebel, *G. Otto*, partial and complete reduction products of 2:6-dinitrothymyl ethyl ether, A., i, 767.
Gailhat, *J.*, modified permanganate method for the assay of commercial glycerol, A., ii, 361.
Galeotti, *G.*, permeability of animal membranes, A., ii, 377.
—— electrical conductivity of animal tissues, A., ii, 675.
Gamel. See **Massol**.
Gamgee, *Arthur*, certain chemical and physical properties of hæmoglobin, A., i, 700.
Garner, *W. W*. See *Arthur* **Michael**.
Garola, *C. V.*, molasses foods, A., ii, 285.
Garratt, *G. C.*, estimation of sodium and potassium in urine, A., ii, 226.
Garrett, *Frederic Charles*, and *John Armstrong* **Smythe**, the bases contained in Scottish shale oil, T., 449; P., **1900**, 190; **1902**, 47.
Garzarolli-Thurnlackh, *Karl*, decomposition of potassium iodide solutions by ozone, A., ii, 67.
Gatehouse, *Frank B.*, estimation of cyanide in the presence of a chloride, A., ii, 53.
Gattermann, *Ludwig*. See *Kurt* **Dammann**.
Gaud, *Fernand*, decomposition of acetylene during its combustion, A., i, 253.
Gaus, *W*. See *Richard* **Abegg**.
Gautier, [*Émile Justin*] *Armand*, the presence of arsenic in normal animal organs, A., ii, 517.
—— a fibrinogenous substance in egg-white, A., ii, 622.
Gautier, *Henri*, alloys of strontium with zinc and cadmium, A., ii, 138.
—— preparation and properties of strontium hydride, A., ii, 208.
—— alloys of cadmium with calcium and barium, A., ii, 397.
—— conditions of formation and stability of the hydrides and nitrides of the alkaline-earths, A., ii, 453.
Gautrelet, *Jean*. See *Louis* **Bruntz**.
Gawalowski, *A.*, apparatus and method for estimating the extractive matter in kiln-dried malt, A., ii, 187.
—— chemical balance with constant load, A., ii, 202.
—— apparatus for the mechanical analysis of soils, A., ii, 232.
Gawler, *R*. See *Harry Medforth* **Dawson**.
Gebhard, *F. von*. See *Otto* **Frank**.
Gedroiz, *K. K.*, chemical methods for estimating the fertility of soils as regards phosphoric acid, A., ii, 688.
Geer, *William C.*, thermostats and thermoregulators, A., ii, 378.

Geiger, *P.* See *C.* **Hartwich.**
Geigy & Co., *J. R.*, [phthalyltolylenediamines], A., i, 497.
Geisel, *Oskar*, technical estimation of tin in solutions of pink salt, A., ii, 534.
Geisthoff, *G.* See *H.* **Wilfarth.**
Genequand, *Paul.* See *Amé* **Pictet.**
Génin, *V.*, calculation of the simultaneous addition of water to, and withdrawal of cream, from, milk, A., ii, 183.
Genvresse, *Paul*, action of arsenic acid on pinene, A., i, 300.
Georgievics, *Georg von*, theory of the dyeing process, I. and II., A., i, 635.
Gérard, *Ernest*, physiological action of extracts of kidney, A., ii, 575.
Gerber, *Niclaus*, and *P.* **Wieske**, presence of nitrates in milk as an indication of adulteration, A., ii, 540.
Gere, *M. C.* See *Samuel* **Avery.**
Gerin, *F.* See *Léo* **Vignon.**
Gerlach, *Max*, action of kainite and of high per cent. potassium salts, A., ii, 170.
—— [manurial] action of nitrogen as nitrates and as ammonia, A., ii, 528.
—— effect of straw, peat, and cow dung, &c., on the action of nitrogen as nitrates; alinit, A., ii, 580.
—— utilisation of calcium carbide residues in agriculture, A., ii, 582.
Gerlinger, *Paul*, gasometric estimation of nitrites in urine, A., ii, 173.
Gerngross, *Auguste.* See *Ferdinand* **Roques.**
Gessard, *C.*, tyrosinase, A., i, 196.
Getman, *Frederick H.* See *Harry Clary* **Jones.**
Gianturco, *E.*, estimation of starch in commercial starches and flours, A., ii, 705.
Gibson, *Harriet Winfield.* See *Hermann T.* **Vulté.**
Gies, *William J.* See *Leo* **Buerger**, *William D.* **Cutter**, *P. B.* **Hawk**, *L. D.* **Mead**, *E. R.* **Posner**, *A. N.* **Richards**, and *I. O.* **Woodruff.**
Giesel, *Fritz*, radioactive substances, A., ii, 78.
—— radioactive lead, A., ii, 208.
Gilbert, *Adolph.* See *Otto* **Wallach.**
Gilbert, *Sir Joseph Henry*, obituary notice of, T., 625.
Gilbert, *J. W.* See *J. H.* **Kastle.**
Gilbert, *R. D.* See *Frank Austin* **Gooch.**
Gilbody, *Alexander William*, and *William Henry* **Perkin**, *jun.*, brazilin and hæmatoxylin. Part IV. The oxidation of trimethylbrazilin with chromic acid, T., 1040; P., **1899**, 27; **1900**, 105.
Gilbody, *Alexander William*, and *Charles Henry Graham* **Sprankling**, influence of the methyl group on ring formation, T., 787; P., **1900**, 224.
Gill, *Augustus H.*, test for the gumming quality of lubricating oils, A., ii, 481.
Gill, *Augustus H.*, and *Charles H.* **Dennison**, the Bechi test for cotton-seed oil, A., ii, 482.
Gill, *Augustus H.*, and *Allan W.* **Rowe**, analytical constants of neatsfoot, tallow, and horse oils, A., ii, 481.
Gillson, *C. B.* See *Henry* **Fay.**
Gilpin, *J. Elliott*, action of phosphorus pentachloride on aniline, A., i, 700.
Gin, *G.*, reactions in the formation of calcium carbide, A., ii, 605.
Gintl, *Wilhelm H.*, preparation of crystallised alumina in the electric furnace and some bye-products of this process, A., ii, 141.
—— volumetric estimation of iron, A., ii, 429.
Giran, *H.*, an acid monosodium orthophosphate, A., ii, 318.
—— the acidity of pyrophosphoric acid, A., ii, 549.
Girard, *J. de*, and *J.* **Vires**, estimation of the acidity of urine by calcium sucrate, A., ii, 707.
Girardet, *Fernand*, pipette for determining the density of liquids, A., ii, 5.
Gittelmacher-Wilenko, *G.* See *Ladislaus* **Niemilowicz.**
Giudice, *Guido*, Selmi's process for the toxicological detection of arsenic, A., ii, 354.
Giustiniani, *Ercole*, employment of ammoniacal manures on calcareous soils, A., ii, 43.
Glaessner, *Karl*, function of Brunner's glands, A., ii, 35.
—— the change produced in albumoses by the gastric mucous membrane, A., ii, 156.
Glaessner, *Karl.* See also *Gustav* **Embden.**
Glaser, *Fritz*, indicators, A., ii, 222.
Glawe, *A.*, dibromocinnamic acids and dihalogen-indones, A., i, 782.
Glendinning, *Tom Aldrich.* See *Horace T.* **Brown.**
Gley, *Eugène*, and *Paul* **Bourcet**, variation in the iodine of the blood, A., ii, 619.
Glinka, *Konstantin D.*, hydrated aluminium silicates, A., ii, 511.
Glücksmann, *Carl*, iodoeosin as indicator in volumetric analysis, A., ii, 473.
Gmelin, *W.*, gastric digestion in newborn dogs, A., ii, 571.

Gnehm, *Robert*, [with *H.* **Bots**, and *G.* **Weber**], aminohydroxydiphenylamine and analogous compounds, A., i, 831.

Gnehm, *Robert*, and *Felix* **Kaufler**, theory of dyeing, A., i, 635.

Gnehm, *Robert*, and *Ed. A.* **Rübel**, derivatives of *p*-tolyl-α-naphthylamine, A., i, 145.

Gnehm, *Robert*, and *Louis* **Veillon**, *m*-hydroxyphenyl-*p*-tolylamine, A., i, 286.

Gnehm, *Robert*, and *Ralph G.* **Wright**, *s*-dimethyldiaminodi-*o*-tolyl ketone, A., i, 295.

Gnehm, *Robert, jun.* See *Carl* **Graebe**.

Gnezda, *Julius*, correlated production of indoxyl and urea in the organism, A., ii, 339.

Godlewski, *T.*, osmotic pressure of some solutions calculated from the *E.M.F.* of concentration elements, A., ii, 445.

Götz, *Rudolf*, condensation of diphenic anhydride with benzene, A., i, 372.

Goldberg, *Alwin*, thiocyanogen, the so-called ψ-thiocyanogen, and the yellow colouring matter obtained from thiocyanates, A., i, 137.

Goldberg, *Alwin*, and *M. R.* **Zimmermann**, products which are formed by simultaneously passing dry sulphur dioxide and ammonia into absolute alcohol distilled over sodium, A., i, 737.

Goldberg, *Emanuel*, contribution to the kinetics of photochemical reactions; oxidation of quinine by chromic acid, A., ii, 485.

Goldberg, *Irma*. See *Fritz* **Ullmann**.

Goldberger, *Hugo*, the action of inorganic substances on Protista, A., ii, 675.

Goldmann, *Max*. See *Franz* **Sachs**.

Goldschmidt, *Carl*, action of formaldehyde on *o*-aminobenzoic acid in hydrochloric acid solution, A., i, 371.

—— hexahydro-*o*-toluic acid, A., i, 541.

—— action of formaldehyde [on ethylaniline], A., i, 716.

—— anæsthetics, A., i, 785.

Goldschmidt, *Franz*, aqueous ammonia solutions, A., ii, 15.

Goldschmiedt, *Guido*, and *Hans* **Krczmař**, condensation products of phenylacetone [benzyl methyl ketone] with benzaldehyde, A., i, 40.

—— —— condensation of phenylacetone [benzyl methyl ketone] with aromatic aldehydes, A., i, 41.

Goldschmiedt, *Guido*. See also *Hans* **Molisch**.

Goldstein, *Albert H.* See *Charles Frederic* **Mabery**.

Gomberg, *Moses*, triphenylmethyl, IV., A., i, 534.

—— triphenylmethyl. V. Carbonium salts, A., i, 600.

—— tervalent carbon, IV., A., i, 754.

Gonnermann, *Max*, hydrolysis of acid amides and anilides by ferments, A., i, 512.

Gooch, *Frank Austin*, and *R. D.* **Gilbert**, precipitation of ammonium vanadate by ammonium chloride, A., ii, 700.

Gooch, *Frank Austin*, and *O. S.* **Pulman**, estimation of molybdic acid reduced by hydriodic acid, A., ii, 230.

Good, *C. A.*, excretion of lithium, A., ii, 276.

Goodbody, *Francis W.*, *Noel D.* **Bardswell**, and *J. E.* **Chapman**, metabolism and diet, A., ii, 513.

Goodbody, *Francis W.* See also *Vaughan* **Harlay**.

Goodwin, *William*. See *Alfred* **Senier**.

Goppelsroeder, *Friedrich*, rise of colouring matters in plants, A., ii, 419.

—— capillary analysis based on capillary and absorption phenomena; rise of colouring matters in plants, A., ii, 424.

Gordin, *Harry Mann*, the alkalimetric factors of some diacid alkaloids, A., ii, 186.

—— two new methods for the estimation of berberine, A., ii, 235.

—— occurrence and detection of berberine in plants, A., ii, 368.

Gordin, *Harry Mann*, and *Charles G.* **Merrell**, Gaze's "pure berberine," A., i, 172.

Gostling, (*Miss*) *Mildred*, the action of acids on cellulose, P., **1902**, 250.

Gottschalk, *V. H.* See *Eugene T.* **Allen**.

Gouy, *A.*, electrocapillary maxima of some organic compounds, A., ii, 194.

—— electrocapillary properties of organic bases and their salts, A., ii, 487.

Goyder, *George A.*, a South Australian meteorite, A., ii, 32.

Graaf, *Cornelia J. de*. See *Alide* **Grutterink**.

Grabski, *Felix von*, condensation of quinaldine with cuminaldehyde and *p*-tolualdehyde, A., i, 563.

Graebe, *Carl*, stereochemistry of benzene, A., i, 209.

—— constitution of auramine and the salts of phenyliminobenzophenone, A., i, 683.

—— preparation of chlorine from permanganates, A., ii, 203.

—— stability of hypochlorites and hypobromites, A., ii, 556.

Graebe, *Carl*, and *R. H.* **Aders**, methylation of euxanthone and alizarin with dimethyl sulphate, A., i, 42.
Graebe, *Carl*, *R. H.* **Aders**, and *J.* **Heyer**, euxanthic acid, A., i, 39.
Graebe, *Carl*, and *Robert* **Gnehm**, *jun.*, chrysodiphenic acid (2-phenylnaphthalene-1:2′-dicarboxylic acid), A., i, 679.
Graebe, *Carl*, and *Serge* **Rostovzeff**, Hofmann's reaction; conversion of amides into amines, A., i, 663.
Gräfenberg, *Leopold*, potential of ozone, A., ii, 449.
Graelert, *Karl Paul.* See *Richard* **Möhlau**.
Graetz, *Bruno.* See *Josef* **Herzig**.
Graf, *L.*, constituents of coffee berries, A., ii, 40.
—— constituents of the flowers of the coffee tree, A., ii, 470.
Gram, *Bille*, protein grains in oleaginous seeds, A., ii, 684.
Gramann, *August*, andalusite from the Rhætian Alps, A., ii, 31.
Granderye, *M.* See *Alfred* **Guyot**.
Granger, *Albert*, pasty condition assumed by aluminium in the neighbourhood of its melting point, and the application of this property to the division of the metal, A., ii, 608.
Grant, *F. E.* See *Harry Medforth* **Dawson**.
Grave. See *Wladimir N.* **Ipatieff**.
Graves, *W. H.* See *Arthur* **Michael**.
Gray, *Thomas*, the phenols from shale oil, A., i, 605.
Greeley, *Arthur W.*, artificial parthenogenesis, A., ii, 151.
Green, *Clarence James.* See *Percy Faraday* **Frankland**.
Green, *Eric H.*, and *R. W.* **Tower**, ichthylepidin in the scales of American fishes, A., ii, 415.
Green, *Eric H.* See also *James F.* **Norris**.
Gregg, *Harald.* See *Sigmund* **Hals**.
Gréhant, *Nestor*, dissociation of carboxyhæmoglobin, A., ii, 93.
Grenet, *Louis.* See *Georges* **Charpy**.
Gressly, *Alfred.* See *Friedrich* **Kehrmann**.
Grether, *Ernst.* See *Fritz* **Ullmann**.
Griebel, *C.* See *Ludwig* **Vanino**.
Grier, *A. G.* See *E.* **Rutherford**.
Griffon, *Ed.*, chlorophyllous assimilation in leaves when the upper or under sides are exposed to light, A., ii, 624.
Grignard, *Victor*, mixed organo-magnesium compounds and their application to the synthesis of acids, alcohols, and hydrocarbons, A., i, 142.
Grignard, *Victor*, action of organo-magnesium compounds on β-ketonic esters, A., i, 420.
Grignard, *Victor*, and *L.* **Tissier**, action of organo-magnesium compounds on trioxymethylene; synthesis of primary alcohols, A., i, 198.
Grimaldi, *Carlo.* See *Gaetano* **Magnanini**.
Grimwood, *Robert George.* See *William Joseph* **Dibdin**.
Grittner, *Albert*, estimation of calcium and magnesium in water, A., ii, 696.
Grob, *A.* See *Alfred* **Werner**.
Grob, *Jacob.* See *Eugen* **Bamberger**.
Gröger, *Max*, cuprous chloride, A., ii, 19.
—— yellow cuprous oxide, A., ii, 562.
Groschuff, *Erich*, solubility of salts. IX. Barium oxalate, A., ii, 7.
Gross, *Emanuel.* See *Josef* **Seissl**.
Grossmann, *Hermann*, thiocyano-compounds of cadmium, A., i, 662.
—— action of mercuric bromide on the alkali thiocyanates, A., i, 749.
Grotowsky, *Hans.* See *Carl* **Bülow**.
Gruber, *Max*, proteid metabolism, A., ii, 156.
Grünewald, *Richard.* See *Robert* **Behrend**.
Grüss, *J.*, action of enzymes on hemicelluloses, A., i, 713.
—— decomposition of carbohydrates in germinating dates, A., ii, 522.
Grützner, *Bruno*, titration of potassium ferrocyanide with potassium permanganate, A., ii, 290.
Grützner, *Paul*, and *M.* **Wachsmann**, influence of various reagents on the activity of pancreatic diastase, A., ii, 614.
Grund, *Georg*, pentoses in the organism, A., ii, 415.
Grutterink, *Alide*, and *Cornelia J. de* **Graaf**, a crystalline urinary albumose, A., ii, 276.
Guareschi, *Icilio*, condensation of aldehydes with ethyl cyanoacetate, I., A., i, 819.
Guarnieri, *P.*, action of bromine on methyl and ethyl gallates and on their chloro-derivatives, A., i, 161.
Gubser, *Al.* See *Alfred* **Werner**.
Guédras, *Marcel*, preparation of trichlorotert. butyl alcohol, A., i, 131.
—— ergot of rye, A., ii, 162.
Guerbet, *Marcel*, action of normal, propyl, and butyl alcohols on their respective sodium derivatives; synthesis of dipropyl and dibutyl alcohols, A., i, 130.

Guerbet, *Marcel*, constitution of dibutyl and dicœnanthyl [diheptyl] alcohols, A., i, 335.
—— action of methyl alcohol on its sodium derivative, A., i, 583.
—— action of alcohols on the sodium compounds of other alcohols, A., i, 657.
—— mercury lactates, A., i, 703.
Guerreau, micrometric assay of gold minerals, A., ii, 630.
Guess, *H. A.*, estimation of copper by potassium permanganate, A., ii, 698.
Guglielmo, *Giovanni*, new methods for the determination of molecular weights of substances in dilute solution, A., ii, 124.
Guichard, *Marcel*, molybdenum oxides, A., ii, 265.
Guillemonat, *A.*, and *Gabriel* **Delamare,** the iron of lymphatic glands, A., ii, 217.
Guillemonat, *A.* See also *Albert* **Charrin.**
Guillet, *Léon*, copper-aluminium alloys, A., ii, 21.
—— tin-aluminium alloys, A., ii, 84.
—— aluminium-iron and aluminium-manganese alloys, A., ii, 264.
Guinchant, *Joseph*, electrical resistance of metallic sulphides, A., ii, 486.
Gulland, *G. Lovell.* See *Diarmid* **Noël-Paton.**
Guntz, *Antoine*, metallic strontium and its hydride, A., ii, 138.
—— preparation of barium, A., ii, 138.
—— apparatus for heating by electricity, A., ii, 302.
—— action of hydrogen on strontium amalgam, A., ii, 394.
Gutbier, *Alexander*, telluric acid, A., ii, 134.
—— atomic weight of tellurium, A., ii, 254.
—— compounds of tellurium with bismuth and the quantitative separation of the two elements, A., ii, 558.
—— some salts of telluric acid, A., ii, 558.
—— liquid hydrosol of gold, A., ii, 610.
—— liquid hydrosol of selenium, A., ii, 652.
—— tellurium, A., ii, 652.
—— colloidal tellurium, A., ii, 653.
Gutbier, *Alexander*, and *F.* **Flury,** compounds of tellurium and iodine, A., ii, 653.
—— —— telluric acid, A., ii, 654.
Gutbier, *Alexander*, and *G.* **Hüller,** quantitative separation of zirconium and iron, A., ii, 701.
Guthzeit, *Max*, and *Max* **Engelmann,** action of halogen-substituted esters of fatty acids on the sodio-compounds of saturated and unsaturated derivatives of ethyl malonate, A., i, 742.
Guthzeit, *Max*, and *Carl* **Jahn,** action of amino-bases on ethyl dicarboxyglutarate and of ethyl chloroacetate on ethyl dicarboxyglutaconate, A., i, 658.
Gutt, *Johannes.* See *Nicolai D.* **Zelinsky.**
Guye, *Philippe A.*, and *Louis* **Friderich,** the equation of fluids, A., ii, 599.
Guye, *Philippe A.*, and *Edouard* **Mallet,** critical constants and molecular complexity of hydrocarbons, A., ii, 195.
—— —— experimental researches on the measurement of critical constants, A., ii, 242, 302, 444.
—— —— critical constants and molecular complexity of some organic compounds, A., ii, 243.
Guyot, *Alfred*, and *M.* **Granderye,** products of condensation of tetramethyldiaminobenzhydrol with primary aromatic amines, in which the para-position is occupied, A., i, 398.

H.

Haacke, *Paul*, quantitative decomposition of milk sugar by *Bacillus acidi lactici*, A., ii, 343.
Haagn, *E.*, the lead chamber process in the light of physico-chemical theories, A., ii, 604.
Haake, *B.*, and *Karl* **Spiro,** diuretic action of isotonic salt solutions, A., ii, 416.
Haarmann & Reimer, aliphatic and cyclic ethyl citralideneacetoacetates, A., i, 342.
—— cyclocitral, A., i, 385.
—— β-ionone, A., i, 471.
—— acetylionone, A., i, 471.
—— homologues of ionone, A., i, 471.
—— separation of ianthone from ionone, A., i, 471.
—— preparation of ionone, A., i, 722.
Haas, *Herbert*, estimation of copper in pyrites, A., ii, 229.
Haber, *Fritz*, electrode potentials, A., ii, 192.
—— amalgam potentials, and the question whether metals dissolved in mercury are monoatomic, A., ii, 638.
—— the potentials of alloys and the formation of superficial layers, being an addition to the paper on the disintegration and pulverisation of cathodes, A., ii, 638.

Haber, *Fritz*, and *M.* **Sack**, disintegration and pulverisation of cathodes due to the formation of alloys with alkali metals, A., ii, 441.

Habermann, *Josef*, and *R.* **Ehrenfeld**, action of dilute nitric acid on casein and the formation of hydroxyglutaric acid, A., i, 653.

Habermann, *Josef*, and *A.* **Oesterreicher**, detection of methyl alcohol in ethyl alcohol, A., ii, 110.

—— —— new construction of laboratory hood, A., ii, 201.

—— —— simple condenser, A., ii, 201.

—— —— modification of Pepys' gasholder, A., ii, 201.

—— —— Mitscherlich's test for phosphorus in presence of alcohol, A., ii, 224.

Hachumian, *Christophor.* See *Eduard* **Buchner**.

Hähle, guaiacolsulphonic acid, A., i, 288.

Hämmerle, *J.*, occurrence of tannin, starch, and sugar in first-year plants of *Acer Pseudoplatanus*, A., ii, 347.

Haeussermann, *Carl*, and *Oscar* **Schmidt**, derivatives of the phenyl ethers, A., i, 126.

Haeussermann, *J.* See *Edgar* **Wedekind**.

Hagemann, *O. H.* See *Nathan* **Zuntz**.

Hagenbach, *Rudolf.* See *Emil* **Fischer**.

Haibach, *Ad.*, methylation of 5-nitro-*m*-toluidine, A., i, 443.

—— methylation of 2-nitro-*p*-toluidine, A., i, 444.

Hailer, *Ekkehard.* See *Carl* **Bülow**.

Haldane, *John Scott*, air of factories and workshops, A., ii, 671.

Haldane, *John Scott.* See also *Joseph* **Barcroft**.

Hale, *F. E.*, the initiative action of iodine and of other oxidisers in the hydrolysis of starch and dextrins, A., i, 533.

Hall, *Alfred Daniel*, and *Francis Joseph* **Plymen**, the determination of available plant food in soils by the use of weak acid solvents, T., 117; P., **1901**, 239, 265; discussion, P., 240.

Hall, *Alfred Daniel*, and *Edward John* **Russell**, a method for determining small quantities of carbonates, T., 81; P., **1901**, 241.

Hall, *Clarence A.* See *George E.* **Thomas**.

Hall, *John Walker*, purine substances in articles of diet, A., ii, 465.

—— elimination of carbon dioxide in certain metabolic disorders, A., ii, 679.

Hall, *Roy D.*, lead thiocyanate, A., i, 597.

Halla, *Ed.* See *Alois* **Smolka**.

Haller, *Albin*, and *Edouard* **Heckel**, ibogine; the active principle of a plant of the Tabernæmontana genus growing in the Congo, A., i, 174.

Halliburton, *William Dobinson*, biltong, A., ii, 341.

Halliburton, *William Dobinson.* See also *Thomas Gregor* **Brodie**.

Hallion. See *J.* **Tissot**.

Halphen, *Georges*, detection of drying oils and marine animal oils in mixtures, A., ii, 293.

Hals, *Sigmund*, and *Harald* **Gregg**, estimation of fat in milk by means of the refractometer, A., ii, 708.

Halsey, *John T.*, diuresis, A., ii, 275.

Halvorsen, *B. F.* See *Theodor* **Lanser**.

Hamburger, *Hartog Jacob*, and *E.* **Hekma**, human intestinal juice, A., ii, 515.

Hanamann, *Joseph*, experiments with varieties of barley, A., ii, 103.

Hancke, *E.* See *C.* **Beger**.

Hanisch, *R.* See *August* **Michaelis**.

Hann, *Archie Cecil Osborn.* See *Arthur* **Lapworth**.

Hanna, *William.* See *George* **Lamb**.

Hannach, *Oscar*, and *Stanislaus von* **Kostanecki**, synthesis of 7-hydroxy-2-benzylchromone, A., i, 304.

Hanriot, *Maurice*, lipase in the blood, A., ii, 571.

—— lipase, A., ii, 672.

Hansen, *Willy*, mixed glycerides in animal fat, A., ii, 339.

Hantzsch, *Arthur* [*Rudolf*], quinonoid diazo-compounds and the so-called triazolens, A., i, 324.

—— decomposition of diazonium salts by the aid of alcohol, A., i, 329.

—— structurally isomeric mercury cyanurates, A., i, 662.

—— desmotropism of trimethylethylene nitrosite, A., i, 734.

—— nature of alkaline solutions of metallic hydroxides, A., ii, 395.

—— interpretation of certain modifications of metallic hydroxides, A., ii, 396.

Hantzsch, *Arthur*, and *Ad.* **Barth**, characterisation of "pseudo-acids" by the abnormal relationship of their affinity constants and hydrolysis of their salts, A., i, 222.

Hantzsch, *Arthur*, [and, in part, *Max* **Buchner**], affinity constants of certain nitroamines and isonitroamines, A., i, 209.

Hantzsch, *Arthur*, and *Cecil H.* **Desch**, coloured organic ferric compounds, A., i, 708.

Hantzsch, *Arthur*, and *Fritz E.* **Dollfus**, characterisation of "pseudo-acids" by the ammonia reaction, A., i, 223, 675.

Hantzsch, *Arthur*, and *A.* **Holl**, so-called sulphimide, A., ii, 14.
Hantzsch, *Arthur*, and *Arthur* **Horn**, isomerism of quaternary ammonium bases, A., i, 277.
—— —— ψ-ammonium bases and their derivatives, A., i, 311.
Hantzsch, *Arthur*, and *E.* **Jochem**, decomposition of diazonium salts by alcohol, A., i, 62.
Hantzsch, *Arthur*, and *Martin* **Lehmann**, azotates of the fatty series, A., i, 325.
Hantzsch, *Arthur*, and *William* **Pohl**, isomerism of antidiazo-hydrates and primary nitrosoamines, A., i, 842.
Hantzsch, *Arthur*, and *August* **Vagt**, state of dissolved compounds deduced from partition coefficients, A., ii, 8.
Hantzsch, *Arthur*, and *E.* **Voegelen**, characterisation of pseudo-acids by conductivity determinations of aqueous-alcoholic solutions, A., i, 260.
Hantzsch, *Arthur*. See also *B.* **Dybowski**, and *Hans* **Euler**.
Hanuš, *Jos.*, application of iodine monobromide in the analysis of fats and oils, A., ii, 112.
Hanusch, *F.*, green manuring on heavy soil, A., ii, 169.
Happe, *Gustav*. See *Wilhelm* **Koenigs**.
Harcourt, *Augustus George Vernon*. See *Andrea* **Angel**.
Harden, *Arthur*, and *William John* **Young**, glycogen from yeast, T., 1224; P., **1902**, 182.
Harden, *Arthur*. See also *Gibson* **Dyson**.
Harding, *Everhart Percy*, reduction, in an alkaline solution, of 2:4:5-trimethylbenzalazine and the preparation of some derivatives of the reduction products, A., i, 127.
Harlay, *Vaughan*, presence of sucrose in the tubercles of *Carum Bulbocastanum*, A., ii, 220.
—— mucilage of "cactus a raquettes" (*Opuntia vulgaris*), A., ii, 685.
Harlay, *Vaughan*, and *Francis W.* **Goodbody**, low proteid metabolism, A., ii, 466.
Harries, *Carl D.*, action of nitrous and nitric acids on mesityloxideoxime, A., i, 184.
—— succindialdehyde, II., A., i, 345.
—— new proof of the constitution of the synthetical methylheptenone, A., i, 345.
—— a cycloketotriose and its conversion into methyl-*o*-diketocyclohexane, A., i, 378.
—— auto-oxidation of pyrogallol, A., i, 771.
—— chemistry of india-rubber, A., i, 811.
Harries, *Carl D.*, [and, in part, *Ernst* **Atkinson**], $\Delta^{1,3}$-dihydrotoluene, and a modification of Wagner's oxidation rule, A., i, 361.
Harries, *Carl D.*, and *Paul* **Bromberger**, condensation of methyl propyl ketone with benzaldehyde, A., i, 792.
Harries, *Carl D.*, and *G. Hans* **Müller**, condensation of methyl ethyl ketone with benzaldehyde, A., i, 295.
Harries, *Carl D.* See also *Emil* **Fischer**.
Harris, *C. D.*, estimation of citrate-insoluble phosphoric acid, A., ii, 353.
Harris, *Isaac F.* See *Charles* **Baskerville**, and *Thomas Burr* **Osborne**.
Harris, *S. H.*, mathematical expression of the periodic law, A., ii, 65.
Harrison, *John Bristowe Pease*. See *Henry Droop* **Richmond**.
Harroy, *M.*, chlorophyllous assimilation, A., ii, 165.
Hartle, (*Miss*) *Hilda Jane*. See *Percy Faraday* **Frankland**.
Hartley, *Walter Noel*, the absorption spectra of metallic nitrates, T., 556; P., **1902**, 67, 239.
—— composition of brittle platinum, P., **1902**, 30.
—— occurrence of cyanogen compounds in coal-gas, and of the spectrum of cyanogen in that of the oxy-coal-gas flame, A., i, 208.
—— conditions of equilibrium of deliquescent and hygroscopic salts of copper, cobalt, and nickel, with respect to atmospheric moisture, A., ii, 197.
—— theory of the molecular constitution of supersaturated solutions, A., ii, 200.
—— quantitative spectra of beryllium, A., ii, 237.
Hartley, *Walter Noel*, *James Johnstone* **Dobbie**, and *Alexander* **Lauder**, the absorption spectra of phloroglucinol and some of its derivatives, T., 929; P., **1902**, 171.
Hartley, *Walter Noel*, and *Hugh* **Ramage**, banded flame spectra of metals, A., ii, 189.
Hartung, *C.*, iron in hens' eggs, A., ii, 618.
Hartwich, *C.*, and *P.* **Geiger**, Ipoh arrow poisons and some plants that are used to prepare them, A., i, 114.
Harvey, *Alfred William*, and *Arthur* **Lapworth**, sulphocampholenecarboxylic acid, P., **1902**, 142.
Harvey, *Alfred William*. See also *Arthur* **Lapworth**.
Haškovec, *Ant.* See *František* **Kovář**.
Hassel, *C.* See *Max* **Dittrich**.
Hasslinger, *Rudolf von*, potential differences in vapours and in some solid electrolytes, A., ii, 118.

Hauser, *Otto*. See *Ludwig* **Vanino**.
Hausmann, *Walther*, abrin, A., i, 408.
Hausser, *Jean*. See **Cathelineau**.
Hawk, *P. B.*, and *William J.* **Gies**, albumoid of bone, A., i, 408.
—— —— osseo-albumoid and chondro-albumoid, A., ii, 518.
—— —— estimation of acid-albumin in digestive mixtures, A., ii, 635.
Hawthorne, *John*. See *Ludwig* **Knorr**, and *Edmund Albert* **Letts**.
Hayashi, *H.*, chemical nature of tetanus toxin, A., i, 411.
Hayes, *J. Arthur*, some compounds of pyridine, A., i, 492.
Heath, *George L.*, the Lake Superior fire assay for copper, A., ii, 698.
Heathcote, *Henry Leonard*. See *Percy Faraday* **Frankland**.
Hebb, *Thomas C.*, determination of the freezing point depression constant for electrolytes, A., ii, 443.
Hebebrand, *A.*, simple method for the estimation of boric acid, A., ii, 354.
Hébert, *Alexandre*. See *Eugène* **Charabot**.
Heckel, *Edouard*, and *Charles Frédéric* **Schlagdenhauffen**, chemical composition of the roots of *Dorstenia Klaineana* (Gabon ivy) and *D. brasiliensis*, A., ii, 101.
Heckel, *Edouard*. See also *Albin* **Haller**, and **Lambert**.
Hedström, *Herman*, gahnite from Färila, Sweden, A., ii, 405.
Heffter, *K. W. Arthur*, physiological action of borax and boric acid; its use as a preservative of foods, A., ii, 620.
Hehner, *Charles W.* See *Otto* **Hehner**.
Hehner, *Otto*, preparation of arsenic-free zinc, A., ii, 501.
—— action of boiling hydrochloric acid on arsenic acid, A., ii, 695.
Hehner, *Otto*, and *Charles W.* **Hehner**, detection of fluorides in butter, A., ii, 529.
Heide, *Carl von der*. See *Eduard* **Buchner**.
Heidenhain, *Martin*, the chemical action between proteids and aniline dyes, A., i, 651.
Heil, *H.* See *Alfred* **Werner**.
Heimann, *Wilhelm*. See *Julius* **Mai**.
Heimrod, *George W.* See *Theodore William* **Richards**.
Heine, *Max*. See *August* **Michaelis**.
Heintz, *Arvid*, analysis of rubber wares, A., ii, 369.
Heinze, *Max*. See *Richard* **Möhlau**.
Hekma, *E.* See *Hartog Jacob* **Hamburger**.
Helbig, *Demetrio*, probable new oxide of nitrogen, A., ii, 654.
Helle, *J.* See *Karl* **Stephan**.
Heller, *Gustav*, and *Wilhelm* **Bauer**, removal of sulphur from aryldithiocarbamates, A., i, 444.
Heller, *Gustav*, and *Georg* **Fiesselmann**, action of formaldehyde on anthranilic acid, A., i, 779.
Hellström, *Paul*, origin of the elements; some stereochemical views on the question of the unity of matter, A., ii, 128.
Hemmelmayr von Augustenfeld, *Franz*, ononin, A., i, 480.
—— electrolysis of potassium antimony tartrate, A., ii, 459.
Hempel, *Walther*, gas analysis by combustion, A., ii, 627.
Hemptinne, *Alexander de*, influence of radioactive substances on the luminescence of gases, A., ii, 58.
—— electrical conductivity of flames and gases, A., ii, 119.
—— formation of ozone by the electric discharge, A., ii, 252.
—— synthesis of ammonia by electricity, A., ii, 450.
Henderson, *George Gerald*, and *David* **Prentice**, the influence of certain acidic oxides on the specific rotations of lactic acid and potassium lactate, T., 658; P., **1902**, 88.
Henderson, *M.* See *Max* **Cremer**.
Henderson, *William Hope*. See *Carl* **Friedheim**.
Henderson, *Yandell*, and *C. H.* **Edwards**, metabolism in a case of lymphatic leucæmia, A., ii, 277.
Henle, *Franz*, reduction of carboxylic derivatives to aldehydes and their derivatives and to amines, A., i, 790.
Henle, *Karl*. See *Hugo von* **Soden**.
Henning, *F.*, radioactive substances, A., ii, 297.
Henning, *F.* See also *Ludwig* **Holborn**.
Hennings, *R.* See *Wilhelm* **Autenrieth**.
Henri, *Victor*, the influence of pressure on the inversion of cane sugar by sucrase, A., i, 712.
—— influence of the concentration of cane sugar on the rapidity of inversion by sucrase, A., i, 712.
—— action of sodium chloride on the inversion by sucrase, A., i, 712.
—— action of neutral salts on the inversion of cane sugar by sucrase, A., i, 712.
—— law of the action of invertase, A., ii, 127.
Henrich, *Ferdinand*, study of ethyl glutaconate, A., i, 422.
—— the nature of radicles, A., ii, 449.
Henrich, *Ferdinand*, and *Otto* **Rhodius**, action of nitrous acid on resorcinol monomethyl ether, A., i, 447.

Henriet, *H.*, organic vapour in the air, A., i, 714.
Henry, *Louis*, adiponitrile, A., i, 141.
—— the addition of hypochlorous acid to propylene, A., i, 417.
—— action of alcohols on esters, A., i, 736.
Henry, *Thomas Anderson.* See *Wyndham Rowland* **Dunstan.**
Henze, *Martin*, copper in the liver of Cephalopods, A., ii, 94.
Heraeus, *W. C.*, melting point of manganese, A., ii, 457.
Herbert, *Arthur M.*, effect of the presence of hydrogen on the intensity of the lines of the carbon spectrum, A., ii, 637.
Herbig, *W.*, analysis of turkey-red oil, A., ii, 366.
Herbst, *Carl.* See *Augustin* **Bistrzycki.**
Hérissey, *Henri*, digestion of the mannan of orchid tubers, A., ii, 419.
Hérissey, *Henri.* See also *Émile* **Bourquelot.**
Herlant, *A.*, the proteids of urine, A., ii, 295.
Hermann, *P.* See *Daniel* **Vorländer.**
Herrmann, *Georg.* See *Friedrich* **Kehrmann.**
Herscher. See *Jules* **Ogier.**
Hertkorn, *J.*, detection of wood-fibre, A., ii, 632.
Herz, *W.*, hydroxides of zinc and lead, A., ii, 77.
—— some allotropic modifications of inorganic compounds, A., ii, 82.
—— analyses of chromates and manganates, A., ii, 290.
—— solubility of zinc hydroxide in ammonia and ammonium bases, A., ii, 398.
—— dialysis experiments with metallic hydroxides and sulphides, A., ii, 608.
Herz, *W.* See also *W.* **Fischer.**
Herzen, *Alex.*, and *C.* **Radzikowski**, action of peptone and secretin on the pancreas, A., ii, 614.
Herzig, *Josef*, and *Karl* **Eisenstein**, alkyl ethers of the phloroglucinols. V. Constitution of the mono- and di-alkyl ethers of methylphloroglucinol, A., i, 772.
Herzig, *Josef*, and *Hermann* **Kaserer**, halogen derivatives of the phloroglucinols. III. Decomposition of tribromophloroglucinol, A., i, 771.
Herzig, *Josef*, and *Jacques* **Pollak**, brazilin and hæmatoxylin. Part VII., A., i, 482.
Herzig, *Josef*, and *Franz* **Wenzel**, [and, in part, *Rudolf* **Tölk**, and *Bruno* **Graetz**], esters of phloroglucinolcarboxylic acids, A., i, 463.
Herzog. See *William* **Camerer,** *jun.*
Herzog, *Maximilian*, does the pancreas contain an enzyme which splits dextrose into alcohol and carbon dioxide? A., ii, 336.
Herzog, *Reginald Oliver.* detection of lysin and ornithin, A., i, 486.
—— chlorophyll assimilation, A., ii, 578.
Hesse, *Albert*, and *Otto* **Zietschel,** estimation of methyl anthranilate in ethereal oils, A., ii, 538.
Hesse, *Oswald*, hyoscine and atroscine, A., i, 51, 817.
—— ecgonine, A., i, 306.
—— laudanine, A., i, 307.
—— lichens and their characteristic constituents, VII., A., i, 680.
Heut, *G.*, emulsin, A., i, 252.
Hewitt, *John Theodore*, oxonium salts, A., i, 112.
Hewitt, *John Theodore*, and *Samuel James Manson* **Auld,** the relationship between the orientation of substituents in, and the constitution of, benzeneazo-α-naphthol, T., 171; P., **1901**, 264.
—— —— the action of substituting agents on benzeneazo-β-naphthol, T., 1202; P., **1902**, 180.
Hewitt, *John Theodore*, and *T. S.* **Moore,** a modification of Zeisel's method for the estimation of methoxyl groups, T., 318; P., **1902**, 8.
Hewitt, *John Theodore*, *Alfred John* **Turner**, and *Sidney Wallace* **Bradley,** the condensation of dimethylaminobenzaldehyde with β-naphthol, T., 1207; P., **1902**, 181.
Hewitt, *John Theodore*, and *John N.* **Tervet,** oxonium salts of fluoran and its derivatives, T., 663; P., **1902**, 86.
Hewitt, *John Theodore*, and *Alfred William George* **Woodforde,** bromonitro-derivatives of fluorescein, T., 893; P., **1902**, 128.
Hewlett, *Richard Tanner*, non-absorption of antitoxin from the stomach and rectum, A., ii, 465.
Heycock, *Charles Thomas*, and *Francis Henry* **Neville,** constitution of copper-tin alloys, A., ii, 261.
Heyden, *von.* See **Chemische Fabrik von Heyden.**
Heyer, *J.* See *Carl* **Graebe.**
Heyl, *Fritz.* See *Ludwig* **Wolff.**
Heymann, *Felix.* See *Carl* **Neuberg.**
Heymann, *Fritz.* See *Ludwig* **Berend.**
Heywang, *Rudolf*, and *Stanislaus von* **Kostanecki,** chromone, A., i, 816.
Hilbenz, *Heinrich.* See *August* **Michaelis.**
Hildebrandt, *Hermann*, an experimental abnormality of metabolism, A., ii, 411.

Hildebrandt, *Hermann*. See also *Emil* **Fromm**.
Hilger, *Albert*, testing of honey, A., ii, 179.
—— estimation of furfuraldehyde in pepper, A., ii, 185.
Hilger, *Albert*, and *S.* **Rothenfusser**, application of the β-naphthylhydrazones to the detection and separation of the sugars, A., ii, 479.
Hill, *Arthur Croft*, synthetic action on dextrose with pancreatic ferment, A., ii, 515.
Hill, *Henry Barker*, and *George R.* **White**, δ-nitropyromucic acid, A., i, 388.
Hill, *J. C.* See *S. S.* **Maxwell**.
Hille, *Hermann*, hydrazide and azide [azoimide] of propionic and isovaleric acids, A., i, 141.
Hillebrand, *William Francis*, composition of yttrialite and thalenite, A., ii, 270.
—— common errors in the estimation of silica, A., ii, 427.
—— anorthite and epidote, A., ii, 463.
Hillebrand, *William Francis*, and *Samuel Lewis* **Penfield**, alunite-jarosite group of minerals, A., ii, 66.
Hillyer, *Homer Winthrop*, phenoxozone derivatives, A., i, 50.
Hillyer, *Homer Winthrop*. See also *Gideon* **Benson**.
Hiltner, *R. S.*, and *R. W.* **Thatcher**, [estimation of sugar in beets], A., ii, 111.
Hinrichsen, *F. Willy*, theory of unsaturated compounds, A., ii, 129.
—— combining weight of calcium, A., ii, 137, 501.
Hinrichsen, *F. Willy*. See also *Jacobus Henricus van't* **Hoff**.
Hinsberg, *Oscar*, complex cyclic systems containing nitrogen, A., i, 238.
Hirsch, *Robert*, titration with phenolphthalein in alcoholic solution, A., ii, 690.
Hirschel, *Wilhelm*, etherification of pyrogallol, A., i, 540.
Hirschsohn, *Eduard*, new reactions for quinine and quinidine, A., ii, 710.
Hittorf, [*Johann*] *Wilhelm*, observations on the determination of transport numbers of the ions during electrolysis of their solutions; the behaviour of diaphragms during the electrolysis, A., ii, 58.
—— electrolytic phenomena at the common surface of two solvents, A., ii, 642.
Hock, *Th.* See *Herman* **Decker**.
Hodgkinson, *William Richard Eaton*, and *Leonard* **Limpach**, some relation between physical constants and constitution in benzenoid amines, A., i, 90.
Hönig, *Max*, the composition and analysis of starch syrups, A., ii, 705.
Hofer, *Hans*, and *M.* **Moest**, formation of alcohols by the electrolysis of the salts of the fatty acids, A., i, 736.
Hofer, *Hans*. See also *Wilhelm* **Muthmann**.
Hoff, *Jacobus Henricus van't*, the Raoult memorial lecture, T., 969; P., **1902**, 81.
—— artificial formation of vanthoffite, A., ii, 407.
Hoff, *Jacobus Henricus van't*, [with *Edward Frankland* **Armstrong**, *Frederick George* **Donnan**, *F. Willy* **Hinrichsen**, and *Fritz* **Weigert**], the formation of natural anhydrite and the *rôle* of time in chemical transformations, A., ii, 74.
Hoff, *Jacobus Henricus van't*, and *Giuseppe* **Bruni**, formation of oceanic salt deposits, particularly of the Stassfurt beds. XXVII. Artificial preparation of pinnoite, A., ii, 666.
Hoff, *Jacobus Henricus van't*, *Frank B.* **Kenrick**, and *Harry Medforth* **Dawson**, formation of tachyhydrite, A., ii, 76.
Hoff, *Jacobus Henricus van't*, *Wilhelm* **Meyerhoffer**, and *F. G.* **Cottrell**, formation of oceanic salt deposits, particularly of the Stassfurt beds. XV. Formation of langbeinite and its lower temperature limits in the salt deposition at 37°, A., ii, 321.
Hoff, *Jacobus Henricus van't*, and *A.* **O'Farelly**, formation of oceanic salt deposits, particularly of the Stassfurt beds. XXVI. Formation of loeweite and the lower temperature limit of the same at 43°, A., ii, 461.
Hoff, *Jacobus Henricus van't*, and *Fritz* **Weigert**, formation of oceanic salt deposits, particularly of the Stassfurt beds. XXIV. Gypsum and anhydrite. 3. Natural anhydrite and its formation at 25°, A., ii, 137.
Hoffmann, *G. Christian*, [datolite from] Canada, A., ii, 147.
—— occurrence of chrompicotite in Canada, A., ii, 328.
Hoffmann, *M. K.* See *Carl* **Friedheim**.
Hofmann, *J.* See *Ernst* **Winterstein**.
Hofmann, *Karl A.*, and *A.* **Jenny**, isomerism in the cobalt-tetrammine series, A., ii, 81.
Hofmann, *Karl A.*, and *Eduard* **Strauss**, radioactive substances, A., ii, 78, 397.
Hofmann, *Karl A.*, and *V.* **Wölfl**, radioactive lead, A., ii, 261, 397.
Hofmann, *Karl A.*, and *F.* **Zerban**, radioactive thorium, A., ii, 211.

Hofmann, *Robert.* See *Karl Wilhelm* **Frey**.
Hohenemser, *W.*, preparation of anthrachrysone, A., i, 629.
Hohenemser, *W.* See also *Carl* **Liebermann**.
Holborn, *Ludwig*, and *F.* **Henning**, pulverisation and recrystallisation of the platinum metals, A., ii, 664.
Holde, *David*, solid acids of olive oil, A., i, 257.
—— estimation of colophony in the presence of fatty acids, A., ii, 632.
Holl, *A.* See *Arthur* **Hantzsch**.
Holland, *Thomas H.*, altered peridotite in Mysore, A., ii, 147.
—— elæolite-syenites and corundum-syenites in Madras, A., ii, 148.
Holleman, *Arnold Frederik*, and *Balthasar Rutger de* **Bruyn**, simultaneous formation of isomeric substitution derivatives of benzene. VI. Nitration of iodobenzene, A., i, 87.
—— —— electric conductivity of chloro- and bromo-nitrobenzoic acids, A., i, 94.
Holleman, *Arnold Frederik*, [with *G. L.* **Voerman**], 2-chloro-3-amino-benzoic acid, A., i, 451.
Holley, *Clifford D.*, liquid mixtures of minimum boiling point, A., ii, 443.
Hollmann, *Reinhard*, decomposition of hydrated mixed crystals, A., ii, 446.
—— double salts of zinc and magnesium sulphates, A., ii, 446.
Holmes, *Willis B.* See *Alexander* **Smith**.
Holroyd, *Arthur G.*, discovery of gold tellurides in Western Australia, A., ii, 509.
Holt, *Alfred.* See *Henri* **Moissan**.
Homfray, *Ida.* See *Sir William* **Ramsay**.
Hondo, *T.*, the substitution of chlorine by bromine, A., ii, 464.
Hooker, *Donald R.* See *Lafayette B.* **Mendel**.
Hopkins, *Cyril G.*, methods of standardising acid solutions, A., ii, 46.
Hopkins, *Frederick Gowland*, and *Sydney W.* **Cole**, proteid chemistry. Part I. A hitherto undescribed product of tryptic digestion, A., i, 193.
Hopkins, *Paul.* See *H. G.* **Byers**.
Hormell, *Will G.*, dielectric constant of paraffins, A., ii, 118.
Horn, *Arthur.* See *Arthur* **Hantzsch**.
Horodyński, *W.*, *Sergei* **Salaskin**, and *J.* **Zaleski**, ammonia in the blood and organs of the dog, A., ii, 516.
Horst, *Paul*, decomposition of cocaine hydrochloride in alcoholic solution by hydrogen chloride, A., i, 306.
—— artemisin, A., i 387.
Horst, *Paul*, decomposition of cevadine [veratrine] in alcoholic solution by hydrogen chloride, A., i, 549.
—— *Polygonum Persicaria*, A., ii, 220.
Horton, *Edward.* See *Henry Edward* **Armstrong**.
Hosch, *George E.*, gravimetric method or the estimation of hydrogen peroxide, A., ii, 222, 472.
Hosking, *Richard.* See *Thomas R.* **Lyle**.
Houben, *Joseph*, and *Ludwig* **Kesselkaul**, synthesis of carboxylic acids, A., i, 583.
Houben, *Joseph.* See also *Julius* **Bredt**.
Hougardy, *A.*, serum-albumin of ox blood, A., i, 193.
Houssay, *Frédéric*, the urine and kidneys of fowls fed on meat, A., ii, 218.
Houtum, *G. van*, cultivation of *Bacillus lepræ*, A., ii, 682.
Howe, *James Lewis*, ruthenium. IV. The chlorides, A., ii, 86.
Howell, *William H.*, influence of salts on heart muscle, A., ii, 94.
Howitz, *Joh.*, 8-quinolinealdehyde, A., i, 397.
Hoyer, *E.*, derivatives of anhydrobisdiketohydrindene, A., i, 42.
—— anhydrides of α-amino-fatty acids, A., i, 352.
Hoyermann, *Hans*, preparation of hydrogen cyanide in the electric furnace and transformation of atmospheric nitrogen into ammonia, A., i, 355.
Huber, *Ludwig.* See *Karl* **Auwers**.
Huber, *O.* See *Manfred* **Bial**.
Hubert, *A.*, estimation of total tartaric acid in lees and tartars, A., ii, 481.
Hübner, *Rudolf*, oxidation of benzylaniline, A., i, 277.
Hüfner, [*Carl*] *Gustav*, affinity of hæmoglobin for carbon monoxide and oxygen, A., ii, 671.
Hüller, *G.* See *Alexander* **Gutbier**.
Hüthig, *O.* See *Heinrich* **Walbaum**.
Huiskamp, *Willem*, electrolysis of nucleohiston and histon salts, A., i, 332.
Huldschinsky, *Ernst.* See *Arthur* **Rosenheim**.
Hulett, *George E.*, and *Lucius E.* **Allen**, solubility of gypsum, A., ii, 656.
Hunt, *F. W.*, a comparison of methods used to determine the iodine values of oils, A., ii, 436.
Hunt, *Reid*, *Zygadenus venenosus* (poison camass), A., ii, 278.
Hunter, *Albert Edward.* See *Frederic Stanley* **Kipping**.
Hunter, *S. J.*, artificial parthenogenesis, A., ii, 32.

Hurdelbrink, *Franz.* See *Julius* **Tröger.**
Hussak, *Eugen*, chalmersite, a new sulphide of the copper-glance group, A., ii, 267.
Hutchison, *Robert*, chylous and chyliform ascites, A., ii, 466.
Hyde, *Edward P.* See *Harry Clary* **Jones.**

I.

Ibbotson, *Fred*, and *Harry* **Brearley**, analysis of white metal alloys, A., ii, 52.
—— —— volumetric estimation of manganese, A., ii, 107.
Ibrahim, *Jussuf.* See *Franz* **Soetbeer.**
Imbert, *Henri*, action of pyridine bases on tetrahalogenated quinones; quinol derivatives, A., i, 55.
—— action of pyridine bases on tetrahalogenated derivatives of quinones, A., i, 117.
Immendorff, *Heinrich*, dopplerite, A., ii, 665.
Ingle, *Herbert*, the origin and nature of the free acid formed during Hübl's reaction with unsaturated compounds, A., i, 528.
Inglis, *J. K. H.* See *Hugh* **Marshall.**
Innes, *William Ross*, the influence of temperature on association in benzene solution, and the value of the molecular rise of boiling point for benzene at different temperatures, T., 682; P., **1902**, 26; discussion P., 28.
Ipatieff, *Wladimir N.*, pyrogenetic contact reactions of organic compounds, A., i, 4, 335.
—— isoprenic acid, A., i, 132.
Ipatieff, *Wladimir N.*, [with *S.* **Bordelius**, and *W.* **Michaeladze**], action of ethyl sodiomalonate on the dibromides $C_nH_{2n}Br_2$, III., A., i, 588.
Ipatieff, *Wladimir N.*, and **Grave**, dimethylpentadecylcarbinol and its reaction with bromine, A., i, 5.
Ipatieff, *Wladimir N.*, and *A. A.* **Solonina**, reactions of nitrosyl chloride and nitrosates, A., i, 1.
Ipatieff, *Wladimir N.*, and **Swiderski**, action of ethyl sodiomalonate on tribromides, A., i, 132.
Istrati, *Constantin I.*, roumanite from the Black Sea, A., ii, 567.
Itallie, *Leopold van*, storax, A., i, 45.
—— American storax, A., i, 46.
Itallie, *Leopold van.* See also *Alexander* **Tschirch.**
Ito, *Midori*, peptone in the urine, A., ii, 160.
Itzig, *Herrmann*, complex derivatives of uranic acid, A., i, 76.
—— action of potassium cyanide on cuprous thiocyanate, A., i, 208.
—— influence of ammonium paramolybdate on the specific rotatory power of sodium hydrogen tartrate, A., i, 259.
Iwanoff, *K. S.*, composition of the proteids and cell-membranes in Bacteria and Fungi, A., ii, 279.
Iwanoff, *W. I.*, new form of Abich's mortar, A., ii, 529.

J.

Jacchia, *Arturo*, trisubstituted naphthalene derivatives, A., i, 716.
Jackson, *C.*, decomposition of proteids in men during the performance of hard work, A., ii, 156.
Jackson, *Charles Loring*, and *Daniel F.* **Calhane**, 2:6-dibromo-*p*-phenylenediimine, A., i, 645.
Jackson, *Charles Loring*, and *A. H.* **Fiske**, derivatives of 3:4:5-tribromonitrobenzene, A., i, 362.
Jackson, *D. D.*, photometric estimation of sulphates, A., ii, 172.
Jackson, *Henry.* See *Richard Harrison* **Solly.**
Jacob, *R.* See *Camille* **Chabrié.**
Jacobj, *Carl*, physiological action of organic ammonium iodides and polyiodides, A., ii, 620.
Jacobson, *Richard*, action of fluorescent materials on ciliated epithelium, A., ii, 38.
Jacoby, *Martin*, ricin immunity, A., ii, 680.
Jaczewski, *L.*, graphite deposits of Battugol, A., ii, 145.
Jaeckle, *Hermann*, composition of human fat, A., ii, 676.
Jaffé, *Max*, action of formaldehyde on creatine and creatinine, A., i, 748.
—— antipyrylcarbamide, a product of the metabolism of pyramidone, A., i, 840.
Jahn, *Carl.* See *Max* **Guthzeit.**
Jahn, *Hans*, outline of an expanded theory of dilute solutions, A., ii, 597.
Jakobi, *C.* See *Ludwig* **Knorr.**
James, *J. H.*, and *J. C.* **Ritchey**, analyses required for electrical alkali works, A., ii, 474.
Jamieson, *George S.* See *Henry Lord* **Wheeler.**
Janda, *F.*, uraninite from Joachimsthal, A., ii, 612.
Jantzen, *F.*, the formation of iodised fat in the mammary glands, A., ii, 273.

Jaubert, *George F.*, new method of preparing oxygen, A., ii, 392.
Javillier, *Maurice*, presence of rennet in plants, A., ii, 625.
Jean, *Ferdinand*, estimation of nitrogen, A., ii, 172.
—— analysis of waxes; estimation of resin; analysis of factitious wax; wool wax, A., ii, 185.
Jeancard, *Paul*, and *C.* **Satie**, essential oils of neroli and petit grain distilled in 1901, A., i, 45.
Jeffers, *Ernest Haynes.* See *Leonard Temple* **Thorne**.
Jefferson, *Alice MacMichael*, aromatic bases as precipitants for rare earth metals, A., ii, 534.
Jehl, *Paul.* See *Johannes* **Thiele**.
Jeiteles, *Berthold*, β-benzoylpicolinic acid, A., i, 62.
Jenkinson, *E. A.* See *Martin Onslow* **Forster**.
Jennings, *Herbert S.*, reactions to stimuli in unicellular organisms. IX. Behaviour of fixed Infusoria, A., ii, 674.
Jennings, *Herbert S.*, and *E. M.* **Moore**, reactions of Infusoria to carbonic and other acids, A., ii, 159.
Jenny, *A.* See *Karl A.* **Hofmann**.
Jensen, *Orla*, rancidity of butter, A., ii, 468.
Jensen, *Paul*, glycogen of the heart, A., ii, 617.
Jenter, *C. G.* See *Whitman H.* **Jordan**.
Job, *André*, dextrose and cerium carbonates; a new means of induced oxidation, A., ii, 399.
Jochem, *E.* See *Arthur* **Hantzsch**.
Jodlbauer, [with *Josef* **Brandl**], amount of fluorine in teeth and bones, A., ii, 34.
Jörgensen, *C. V.*, attempts to prepare thionic and dithionic acids in the fatty series, A., i, 663.
Jörgensen, *Gunner*, behaviour of hydrochloric acid solutions of metastannic acid towards hydrogen sulphide, A., ii, 26.
Joffre, *Jules*, value of the nitrogen in Pyrenean phosphates, A., ii, 103.
Johnsen, *Arrien*, [amphibole in] soda-syenite from Miask, A., ii, 31.
Johnson, *H. G.* See *James F.* **Norris**.
Johnson, *Treat B.* See *Henry Lord* **Wheeler**.
Jolles, *Adolf*, formation of carbamide by the oxidation of physiological nitrogenous substances by means of permanganate in acid solution, A., i, 86.
—— proteids, II., A., i, 192.
—— creatine and creatinine, A., i, 231.
Jolles, *Adolf*, preparation of carbamide by the oxidation of albumin, A., i, 331.
—— estimation of uric acid, A., ii, 112.
—— estimation of uric acids in urines, A., ii, 706.
Jones, *Harry Clary*, molecular weights of certain salts in acetone, A., ii, 196.
—— redetermination of the atomic weight of lanthanum, A., ii, 563.
Jones, *Harry Clary*, *James* **Barnes**, and *Edward P.* **Hyde**, lowering of the freezing point of aqueous hydrogen peroxide, A., ii, 203.
Jones, *Harry Clary*, and *James M.* **Douglas**, dissociation of certain acids, bases, and salts at different temperatures, A., ii, 59.
Jones, *Harry Clary*, and *Frederick H.* **Getman**, lowering of the freezing point of water produced by concentrated solutions of certain electrolytes, and the conductivity of such solutions, A., ii, 489.
Jones, *Humphrey Owen*, the displacement of benzyl by methyl in substituted nitrogen compounds, P., **1901**, 205.
Jones, *Humphrey Owen*, and *Owen Willans* **Richardson**, the decomposition of oxalacetic acid phenylhydrazone in aqueous and acid solutions, and a new method of determining the concentration of hydrogen ions, T., 1140; P., **1902**, 140.
—— —— the dissociation constants of oxalacetic acid and its phenylhydrazone, T., 1158; P., **1902**, 141.
Jones, *Louis Cleveland*, action of carbon dioxide on the borates of barium, A., ii, 630.
Jones, *Walter*, and *G. H.* **Whipple**, the nucleo-proteid of the suprarenal gland, A., i, 731.
Jong, *Arne Willem Karel de*, transformation of salts of pyruvic acid, A., i, 72.
—— action of hydrochloric acid on pyruvic acid, A., i, 122.
Jordan, *Heinrich*, hydrazide and azoimide of phenylpropionic acid, A., i, 57.
Jordan, *Whitman H.*, *C. G.* **Jenter**, and *F. D.* **Fuller**, studies on the feeding of milch cows and on the relations of milk fat to food, A., ii, 579.
Jordis, *Eduard*, action of organic acids on antimony oxides, A., i, 740.
Jorissen, *Armand*, reaction for distinguishing α-naphthol from β-naphthol, A., ii, 536.
Jost, *Hans.* See *Otto* **Diels**.
Joukowsky, *Étienne*, eclogites of the Aiguilles Rouges, A., ii, 214.

Joulie, *H.*, new sodium phosphate, A., ii, 318.
Jouve, *Adolphe*, magnetism of alloys of iron and silicon, A., ii, 595.
—— the toning and fixing of prints on silver chlorocitrate paper, A., ii, 656.
Jovino, *S.* See *G.* **Ampola.**
Jovitschitsch, *Milorad Z.*, synthesis of derivatives of ethyl acetoacetate, A., i, 202.
Jowett, *Hooper Albert Dickinson*, and *Charles Etty* **Potter**, the constituents of commercial chrysarobin, T., 1575; P., **1902**, 191.
—— —— variation in the occurrence of salicin and salinigrin in different willow and poplar barks, A., ii, 686.
Jungclaussen, *C. A.*, normal alkalis and indicators in acidimetry, A., ii, 46.
—— estimation of the iodine number of fats, A., ii, 294.
Jungner, *F. R.*, poisoning by potassium perchlorate, A., ii, 41.

K.

Kaass, *Karl*, cinchomeronic acid and apophyllenic acid, A., i, 564.
Kämpf, *Adolf.* See *Julius* **Schmidt.**
Kahl, *Edmund.* See *Richard* **Möhlau.**
Kahlbaum, *Georg W. A.*, *Karl* **Roth**, and *Philipp* **Siedler**, distillation of metals, and distilled metals, A., ii, 259.
Kahlenberg, *Louis*, method of determining latent heat of evaporation; latent heat of evaporation of pyridine, acetonitrile, and benzonitrile, A., ii, 195.
—— instantaneous chemical reactions and the theory of electrolytic dissociation, A., ii, 301.
—— nitriles as solvents in molecular weight determinations, A., ii, 310.
Kahlert, *Bruno.* See *Richard* **Stoermer.**
Kahn, *Robert*, derivatives of 3-nitrophthalic acid, A., i, 228.
Kahn, *Robert.* See also *Julius* **Mai.**
Kahn, *Walter.* See *Richard* **Willstätter.**
Kaiser, *Albert*, estimation of potato-starch (granulose), A., ii, 362.
—— colour test for wood-fibre, A., ii, 434.
Kalkmann. See *Alfred* **Werner.**
Kalle & Co., 5-chloro- and 5-bromo-acridine, A., i, 311.
—— monoiodo- and monobromo-derivatives of the aromatic hydrocarbons, A., i, 362.
—— sulphonic and carboxylic acids of the *as*-dialkyl-*p*-phenylenediamines, A., i, 398.
—— bromalchloralcarbamide, A., i, 429.
Kalle & Co., 9-iodoacridine, A., i, 495.
—— cinnamylquinine hydrochloride, A., i, 692.
—— iodo-derivatives of aromatic amino-sulphonic acids, A., i, 716.
—— preparation of anthranilic acid from 4-sulphoanthranilic acid, A., i, 718.
Kammann, *Otto.* See *Heinrich* **Biltz.**
Kanonnikoff, *Innocentius I.*, true density of chemical compounds and its relation to composition and constitution. V. Nitrogen compounds, A., ii, 244.
Kapp, *A. W.*, complete freezing point curves of binary alloys, A., ii, 145.
Karchowski, *Dionysius von.* See *August* **Michaelis.**
Karnowski, *M.*, and *Josef* **Tambor**, catechin, A., i, 637.
Kasanezky, *P.*, action of hydrogen peroxide on carbonates, A., ii, 317, 500.
—— fluoromolybdates, A., ii, 506.
Kasanezky, *P.* See also *Petr G.* **Melikoff.**
Kaserer, *Hermann*, halogen derivatives of the phloroglucinols. IV. Chloro-derivatives of the ethers of phloroglucinol, A., i, 771.
Kaserer, *Hermann.* See also *Josef* **Herzig.**
Kassowitz, is alcohol a food or a poison? A., ii, 573.
Kastle, *J. H.*, the inactivity of lipase towards the salts of certain acid ethers, considered in the light of the theory of electrolytic dissociation, A., i, 655.
Kastle, *J. H.*, and *Mary E.* **Clarke**, decomposition of hydrogen peroxide by various substances at high temperatures, A., ii, 314.
Kastle, *J. H.*, [with *J. W.* **Gilbert**, *A. S.* **Loevenhart**, and *Rosa* **Speyer**], tribromophenol bromide, A., i, 211.
Kastle, *J. H.*, and *A. S.* **Loevenhart**, nature of certain of the oxidising ferments, A., i, 514.
Kastle, *J. H.*, and *Jewett V.* **Reed**, nature of mercuric iodide in solution, A., ii, 324.
Kastle, *J. H.*, and *O. M.* **Shedd**, phenolphthalin as a reagent for the oxidising ferments, A., i, 514.
Kastner, *Jaroslav*, sugars from crocin and picrocrocin, A., i, 685.
Katsuyama, *K.*, formation of lactic acid from pentoses by the action of potassium hydroxide, A., i, 257.
—— the influence of certain poisons on the synthesis of phenolsulphuric acid in the animal organism, A., ii, 161.
Katz, *F.* See *H.* **Wilfarth.**
Katzenellenbogen, *A.*, *p*-tolylpyridazine and its derivatives, A., i, 121.

Kauffmann, *Hugo*, "halochromy" of 2:7-dimethoxynaphthalene, A., i, 368.
—— behaviour of aldehydes and ketones towards Tesla-rays, A., ii, 191.
Kaufler, *Felix*, aromatic polycarbylamines, A., i, 278.
—— estimation of methoxyl groups in sulphur compounds, A., ii, 291.
Kaufler, *Felix*. See also *Robert* **Gnehm**, and *Rudolf* **Wegscheider**.
Kaup, *Igo*, the influence of muscular work on metabolism, A., ii, 615.
Kehrer, *Eduard Alexandre*, furfuran and pyrrole groups, A., i, 562.
—— test for nitrogen in pyrrole compounds by Lassaigne's method, A., ii, 530.
Kehrmann, *Friedrich*, triphenylmethyl; a correction, A., i, 209.
Kehrmann, *Friedrich*, [with *Hans* **Becker**, *Alexander* **Capatina**, *Anatol* **Denguin**, *Alfred* **Gressly**, *Georg* **Herrmann**, *Emile* **Misslin**, *Leo* **Schild**, *Carlo* **Stampa**, *Paul* **Thomas**, *Walter* **Urech**, *O.* **Veselý**, and *Victor* **Veselý**], constitution of the oxazine and thiazine colouring matters and their relationship to the azonium compounds, A., i, 566.
Kehrmann, *Friedrich*, and *M.* **Mattisson**, phenanthraquinone nitrate, A., i, 229.
Kehrmann, *Friedrich*, and *Adolf* **Saager**, the simplest azoxone, A., i, 235.
Kehrmann, *Friedrich*, [with *Victor* **Veselý**], azothionium compounds, A., i, 186.
Kehrmann, *Friedrich*, and *Franz* **Wentzel**, basic properties of carbon and the constitution of the so-called triphenylmethyl, A., i, 89.
Kellner, *Karl*, the behaviour of bromine to high pressure electric discharges, A., ii, 649.
Kellner, *Oscar*, utilisation of gluten proteid by Ruminants, A., ii, 168.
—— comparative estimations of nitrogen by the method of the Association [of Agricultural Experiment Stations] and the Gunning-Atterberg modification of Kjeldahl's method, A., ii, 693.
Kellner, *Oscar*, and *O.* **Böttcher**, pot experiments on the manurial value of various phosphates, A., ii, 351.
—— —— manurial action of bone meal phosphoric acid, A., ii, 528.
Kelly, *Agnes*. See *Sigmund* **Fränkel**.
Kelvin, *Lord*, weights of atoms, A., ii, 649.
Kemp, *George T.*, the number of blood-platelets at high altitudes, A., ii, 271.
Kemp, *George T.*, and *O. O.* **Stanley**, blood-platelets, A., ii, 271.
Kempf, *R.* See *Franz* **Sachs**.
Kenrick, *Edgar B.*, Reinsch's test for arsenic, A., ii, 427.
Kenrick, *Frank B.* See *Jacobus Henricus van't* **Hoff**.
Kerckhof, *Prosper van de*, serum-globulin, A., i, 193.
Kern, *Edward F.*, estimation of uranium, A., ii, 51.
Kesselkaul, *Ludwig*. See *Joseph* **Houben**.
Ketner, *C. H.*, equilibrium in the system; sodium carbonate, ethyl alcohol, and water, A., ii, 308.
Keto, *Eduard*. See *Alexander* **Tschirch**.
Kettner, *A.*, feeding experiments with chondroitinsulphuric acid, A., i, 464.
Kickton, *A.*, analysis of butter, A., ii, 586.
Kiliani, *Heinrich*, extraction of all the valuable constituents from *Digitalinum germanicum*, A., i, 46.
Kiliani, *Heinrich*, and *Otto* **Mayer**, identity of digitoflavone with luteolin, A., i, 47.
Kiliani, *Heinrich*, and *B.* **Merk**, digitonin and digitogenic acid, A., i, 46.
King, *Arthur Scott*, some new peculiarities in the structure of the cyanogen bands, A., ii, 373.
Kingman, *William A.* See *James F.* **Norris**.
Kipping, *Frederic Stanley*, resolution of trimethylhydrindonium hydroxide into its optically active components, T., 275; P., **1902**, 33.
—— resolution of methylbenzylacetic acid into its optical isomerides, P., **1902**, 33.
—— *d*-methylhydrindone; the formation of oximes, hydrazones, and semicarbazones, P., **1902**, 34.
—— isomeric partially racemic salts containing quinquevalent nitrogen. Part VIII. Resolution of the hydrindamine bromocamphorsulphonates, P., **1902**, 209.
—— isomeric compounds of the type $NR_1R_2H_3$, P., **1902**, 211.
Kipping, *Frederic Stanley*, and *Albert Edward* **Hunter**, the resolution of pheno-α-aminocycloheptane into its optical isomerides. Tartrates of pheno-α-aminocycloheptane and of hydrindamine, T., 574; P., **1902**, 60.
Kirnberger, *Carl*. See *Georg* **Schroeter**.
Kirpal, *Alfred*, isomeric change of methyl cinchomeronate into apophyllenic acid, A., i, 564.
Kirsten, *Arthur*, decrease in the acidity of milk, A., ii, 365, 540.
—— the unsaponifiable substances in butter fat, A., ii, 708.

Kissling, *Richard*, the amount of nicotine, wax, resin, and non-volatile organic acids in tobacco leaves at different periods in the growth of the latter, A., ii, 625.

Kistiakowsky, *Wladimir A.*, electrochemistry of double salts, A., ii, 121.

—— determination of the molecular weights of substances in the liquid state, A., ii, 307.

Kitt, *Moriz*, determination of the iodine number, A., ii, 539.

Klages, *August*, aminoacetonitrile, A., i, 354.

—— *s-* and *as*-triethylbenzene, A., i, 432.

—— pyrazoles from 1:3-diketones and alkyl diazoacetates, A., i, 496.

—— synthesis of unsaturated phenol-ethers, A., i, 609.

—— compounds of aromatic ketones with orthophosphoric acid, A., i, 624.

—— styrenes, II., A., i, 666.

—— synthesis of arylated ethylenes, A., i, 668.

—— phenylbutadiene, A., i, 669.

Klages, *August*, [in part, with *Emil* **Fanto**, and *Hermann* **Pierstorff**], styrene, A., i, 611.

Klages, *August*, and *Wilhelm* **Storp**, influence of alkyl groups on the activity of halogenised benzenes, A., i, 670.

Klages, *Ludwig*. See *Alfred* **Einhorn**.

Klason, *Peter*, and *John* **Köhler**, action of ammonium paramolybdate on the specific rotation of sodium hydrogen tartrate, A., i, 75.

Klatt, *Hilmar*. See *August* **Michaelis**.

Kleerekoper, *Estella*, phœnicein, the dye from purple wood (*Copaifera bracteata*), A., i, 48, 111.

Klein, *August*. See *Robert* **Pschorr**.

Klein, *J.*, experiments on feeding pigs with sugar, rye bran, and meat meal, A., ii, 579.

Kley, *P. D. C.*, microchemical examination of tea and observations on caffeine, A., ii, 115.

Klien, *J.* See *Alfred* **Werner**.

Klimenko, *Boris E.* See *Petr G.* **Melikoff**.

Klimmer, *K.* See *Richard* **Möhlau**.

Klimont, *J.*, action of higher aliphatic acids on normal alkali carbonates, A., i, 132.

—— action of superheated steam on glycerol esters of fatty acids, A., i, 202.

—— composition of cocoa butter, A., i, 340.

Kling, *André*, oxidation of propylene glycol by oxidising ferments, A., i, 8.

Klobb, [*Constant*] *Timothée*, crystallographic examination of some luteocobaltic salts, A., ii, 23.

—— luteocobaltic salts, A., ii, 143.

Kloepfer, *E.*, after effect of ammonium sulphate, A., ii, 580.

Knecht, *Edmund*, theory of dyeing, A., i, 387.

Knick, *R.*, *p*-nitrophenyl-2-picolylalkine and its derivatives, A., i, 394.

—— condensation of 2:4-lutidine with *p*-nitrobenzaldehyde, A., i, 825.

Knietsch, *Rudolf*, sulphuric acid and its manufacture by the contact process, A., ii, 132.

Knipscheer, *H. M.*, intramolecular rearrangement of atoms in azoxybenzene and its derivatives, A., i, 648.

Knoblauch, *Oscar*, researches on contact electricity, A., ii, 117.

Knoevenagel, *Emil*, and *Joseph* **Arndts**, benzoin, A., i, 548.

Knoevenagel, *Emil*, and *Richard* **Brunswig**, syntheses in the pyridine series. IV. An extension of Hantzsch's dihydropyridine syntheses, A., i, 640.

Knoevenagel, *Emil*, and *Carl* **Bückel**, addition of alcohols to quinone, A., i, 106.

Knoevenagel, *Emil*, and *Willy* **Cremer** action of malonic ether and malonamide on aminoacetylacetone, A., i, 640.

Knoevenagel, *Emil*, and *Erich* **Ebler**, application of hydroxylamine and hydrazine salts in qualitative analysis; a new separation in the hydrogen sulphide group, A., ii, 697.

Knoevenagel, *Emil*, [and, in part, *Alfred* **Fries**], ketone and acid decomposition in the ethyl acetoacetate series, A., i, 226.

Knoevenagel, *Emil*, and *Julius* **Fuchs**, isomeric dihydrolutidinedicarboxylic esters of R. Schiff and P. Prosio, A. i, 565.

Knoevenagel, *Emil*, and *Edmund* **Speyer**, condensing action of organic bases, A., i, 226.

Knoll & Co., partially acetylated polyhydroxylic compounds, A., i, 71.

—— salicylglycollic acid, A., i, 373.

Knorr, *Eduard*. See *Adolf von* **Baeyer**, and *Wilhelm* **Koenigs**.

Knorr, *Ludwig*, and *John* **Hawthorne**, a fourth methylmorphimethine, A., i, 818.

Knorr, *Ludwig*, and *H.* **Lange**, formation of pyrrole derivatives from isonitrosoketones, A., i, 821.

Knorr, *Ludwig*, and *Hermann* **Matthes**, dimethylethanolamine, A., i, 13.
—— —— synthesis of oxazolidines by the action of aldehydes on hydramines, A., i, 56.
Knorr, *Ludwig*, and *Paul* **Rabe**, interaction of formaldehyde and acetonylacetone, A., i, 13.
Knorr, *Ludwig*, and *Paul* **Rabe**, [and, in part, *Hermann* **Bufleb** and *C.* **Jakobi**], transformation of pyrroles into pyrrolines, A., i, 54.
Knorr, *Ludwig*, and *Samuel* **Smiles**, β-methylmorphimethine, A., i, 817.
Knorre, *Georg von*, new process for the estimation of manganese, A., ii, 108.
—— estimation of carbon in the presence of osmium, A., ii, 427.
Koch, *Ferdinand*, beryl from Bosnia, A., ii, 568.
Koch, *H.*, electrolytic estimation of copper in iron, A., ii, 357.
Koch, *M.* See *Alexander* **Tschirch**.
Koch, *Waldemar*, physiological action of formaldehyde, A., ii, 165.
—— lecithin, kephalin, and cerebrin from brain, A., ii, 676.
Koechlin, *Rudolf*, schneebergite, A., ii, 331.
Köhler. See **Du Roi**.
Köhler, *John*. See *Peter* **Klason**.
Köhler, *Paul*, methylenepiperidines of various origin, A., i, 487.
König, *Berthold*, action of hydrazine hydrate on the aldol from isobutyraldehyde and formaldehyde, A., i, 701.
König, [*Franz*] *Josef*, and *Fr.* **Reinhardt**, physiological importance of pentosans, A., ii, 273.
König, *Josef*, *Alb.* **Spieckermann**, and *J.* **Tillmans**, decomposition of fodder and food by micro-organisms. II. Organisms destroying bread, A., ii, 686.
König, *Josef*. See also *Zdenko Hanns* **Skraup**.
Koenigs, *Wilhelm*, condensations of formaldehyde with pyridine and quinoline derivatives, A., i, 179.
—— condensation products of homonicotinic acid [4-methylpyridinecarboxylic acid] with formaldehyde and acetaldehyde, A., i, 180.
—— condensation of 4-methyl-3-ethylpyridine with formaldehyde, A., i, 394.
Koenigs, *Wilhelm*, and *Eduard* **Bischkopf**, condensation of formaldehyde with 2-ethylquinoline and with 3-methyl-2-ethylquinoline, A., i, 179.
Koenigs, *Wilhelm*, and *Gustav* **Happe**, condensation of formaldehyde with 2-picoline and 2-ethylpyridine, A., i, 394.
Koenigs, *Wilhelm*, and *Eduard* **Knorr**, hepta-acetylmaltose nitrate (acetonitromaltose) and hepta-acetyl-β-methylmaltoside, A., i, 135.
Koenigs, *Wilhelm*, and *Hans* **Schönewald**, addition of sulphurous acid on quinidine, A., i, 818.
Koenigs, *Wilhelm*, and *Ferdinand* **Stockhausen**, condensation of β-methylquinaldine [2:3-dimethylquinoline] and of 2-methylquinoline-3-carboxylic acid with formaldehyde, A., i, 179.
—— —— β-hydroxyquinaldine; condensation of β-chloroquinaldine with formaldehyde, A., i, 693.
Körber, *Heinrich*. See *Wilhelm* **Wislicenus**.
Körner. See *Paul* **Siedler**.
Kösch, *Richard*. See *Otto* **Wallach**.
Köthner, *Paul*, pure tellurium and its atomic weight, A., ii, 67.
Kötz, *Arthur*, and *Otto* **Sevin**, heterocyclic compounds, A., i, 172.
Kötz, *Arthur*, and *P.* **Speiss**, formation of carbon rings, A., i, 12.
Kötz, *Arthur*. See also *Wilhelm* **Böttger**.
Kohler, *Elmer P.*, structure of the substances obtained by the addition of organic oxygen compounds and aluminium haloids, A., i, 446.
—— action of light on cinnamylidenemalonic acid, A., i, 788.
Kohlmann, *M.* See *Daniel* **Vorländer**.
Kohlrausch, *Friedrich*, the temperature coefficients of the ions in water; a law applicable to the univalent elements, A., ii, 489.
Kohlrausch, *Friedrich*, and *F.* **Dolezalek**, solubility of silver bromide and iodide in water, A., ii, 72.
Kohlrausch, *Friedrich*, and *H. von* **Steinwehr**, conductivity of aqueous solutions of electrolytes consisting of univalent ions, A., ii, 487.
Kohlschütter, *Volkmar*, oxalouranous compounds, A., i, 11.
—— double salts of cadmium and mercury, A., i, 203.
Kohn, *Hugo*. See *Otto* **Ruff**.
Kohn, *Moriz*, the oxime of diacetonamine; βγ-diamino-β-methylpentane, A., i, 349.
Kohnstamm, *L.* See *H. C.* **Sherman**.
Kolb, *A.*, new method for the precipitation and separation of thorium earths, A., ii, 584.

Kolb, *Heinz*, eggs of *Rana temporaria*, A., ii, 152.
Kolkwitz, *Richard*, respiration of resting plants, A., ii, 623.
Komppa, *Gustav*, bromotrimethylsuccinic acid and the β-lactone of trimethylmalic acid, A., i, 204.
Kondakoff, *Iwan L.*, isomerisation of unsaturated alcohols and saturated glycols, A., i, 583.
—— isomeric changes in the thujyl series: constitution of thujone, A., i, 807.
Kondakoff, *Iwan L.*, [and, in part, *Eugen* **Lutschinin**], syntheses in the hydroaromatic series by the action of zinc chloride, A., i, 478.
Konowaloff, *Michael I.*, synthesis of tertiary alcohols by means of organomagnesium compounds, A., i, 336.
—— synthesis in the terpene series by means of haloid compounds of aluminium, A., i, 386.
Kopp, *Francis T.*, volumetric estimation of molybdenum steel, A., ii, 430.
Kopp, *W.* See *Otto* **Fischer**.
Koppel, *Iwan*, chromium halogen compounds with alcohol, A., ii, 83.
Koppel, *Iwan*, and *E. C.* **Behrendt**, sulphites and sulphates of quadrivalent vanadium, A., ii, 85.
Korczynski, *Anton von*, action of bromine on durene and penta- and hexa-methylbenzenes, A., i, 274.
Korczynski, *Anton von*, and *Leon* **Marchlewski**, isatin, A., i, 646.
Kornauth, *Karl*, feeding experiments on a dog with various nitrogenous materials, A., ii, 674.
—— behaviour of phosphorus in feeding, A., ii, 674.
Korschun, *S.*, rennet and anti-rennet, A., ii, 673.
Koss, *M.* See *Richard Jos.* **Meyer**.
Kóssa, *Julius von*, chromic acid diabetes, A., ii, 219.
Kossel, *Albrecht* [*Carl Ludwig Martin Leonhard*], the present condition of the chemistry of albumin, A., i, 128.
Kossowitsch, *P.*, ammonium as direct source of nitrogen for plants, A., ii, 684.
—— relative power of agricultural plants to utilise the phosphoric acid of the crude phosphates, A., ii, 690.
Kostanecki, *Stanislaus von*, and *Guido* **Froemsdorff**, α-naphthachromone, A., i, 303.
Kostanecki, *Stanislaus von*, and *Richard G.* **Krembs**, catechin, A., i, 637.
Kostanecki, *Stanislaus von*, and *Victor* **Lampe**, brazilin, A., i, 481.
Kostanecki, *Stanislaus von*, and *Ludwig* **Paul**, the degradation of brazilin, A., i, 686.
Kostanecki, *Stanislaus von*, and *Ernst* **Plattner**, a tetrahydroxyflavone dye, A., i, 690.
Kostanecki, *Stanislaus von*, and *Antoni* **Różycki**, α-ethylluteolin, A., i, 105.
—— 3:3′:4′-trihydroxyflavone, A., i, 105.
Kostanecki, *Stanislaus von*, and *Johannes Catharinus de* **Ruijter de Wildt**, [with *Hermann* **Feinstein**], 5:7-dihydroxychromone, A., i, 303.
Kostanecki, *Stanislaus von*, and *Josef* **Tambor**, synthesis of hydroxyflavonole derivatives, A., i, 470.
—— —— catechin, A., i, 553.
Kostanecki, *Stanislaus von*, and *Peter* **Weinstock**, 3:3′:5′-trihydroxyflavone, A., i, 816.
Kostanecki, *Stanislaus von*. See also *Elvesio* **Bollina**, *Elkan* **David**, *Oscar* **Hannach**, and *Rudolf* **Heywang**.
Koster, *J.*, and *S. J.* **Stork**, identity of the red and yellow oxides of mercury, A., ii, 79.
Kovář, *František*, analyses of Bulgarian minerals, A., ii, 327.
—— [analyses of strontianite and spodumene], A., ii, 329.
Kovář, *František*, and *Ant.* **Haškovec**, fire-clay from Moravia, A., ii, 31.
Kovář, *František*, and *Fr.* **Slavík**, triplite from Moravia and its decomposition products, A., ii, 29.
Kowalewski, *Katharina*, and *Sergei* **Salaskin**, ammonia and lactic acid in the blood of geese, A., ii, 619.
Kraemer, *Gustav*, and *Adolf* **Spilker**, the wax of Algæ and its relation to petroleum, A., i, 333.
Kraft, *Ernst*, pentoses in urine, A., ii, 703.
Kraft, *Friedrich*, extractum filicis, A., i, 814.
Krafft, *Friedrich*, formation of colloidal "bubbles" from heptylamine soaps and water, I., A., ii, 601.
Krafft, *Friedrich*, and *Robert* **Funcke**, formation of colloidal "bubbles" from heptylamine soaps and water, II., A., ii, 601.
Krahe, *Wilhelm*. See *August* **Michaelis**.
Krassusky, *K.*, structure of isobutylene chlorohydrin, A., i, 8.
—— formation of aldehydes and ketones from haloid derivatives of ethylene hydrocarbons, A., i, 261.
—— formation of aldehydes and ketones from β-chloro-alcohols, A., i, 425.

Kraus, *Fr.*, and *A.* **Sommer,** fat-transference in phosphorus poisoning, A., ii, 342.

Kraus, *Friedrich, jun.*, formation of sugar in the liver during perfusion of blood through it, A., ii, 572.

Krauss, *Ludwig.* See *Erwin* **Rupp.**

Krauss, *R.*, dibromo-α-truxillic acid, A., i, 785.

Krczmař, *Hans.* See *Guido* **Goldschmiedt.**

Kreis, *Hans*, glycerides of fatty acids with double melting point, A., i, 529.

—— a new colour reaction of thiophen, A., ii, 535.

Kremann, *Robert*, velocity of hydrolysis of acetylated monoses and bioses, A., i, 712.

Kremann, *Robert.* See also *Zdenko Hanns* **Skraup.**

Krembs, *Richard G.* See *Stanislaus von* **Kostanecki.**

Kremers, *Edward.* See *Oswald* **Schreiner.**

Kretschmer, *F.*, methods for the analysis of artificial manures, A., ii, 105.

Kreutz, *Ad.*, separation of phenylparaconic acid into its optically active components, A., i, 462.

Kröber, *E.*, and *Charles* **Rimbach,** application of the pentosan process to various vegetable matters and materials used in the manufacture of paper, A., ii, 537.

—— —— estimation of pentoses and pentosans by means of distillation with hydrochloric acid and precipitation of the furfuraldehyde with phloroglucinol, A., ii, 537.

Krüger, *Friedrich*, quantitative observations on gastric digestion, A., ii, 33.

Krüger, *Martin*, and *Alfred* **Schittenhelm,** purine derivatives in human fæces, A., ii, 412.

Krüger, *Martin*, and *Julius* **Schmid,** production of uric acid from free purine bases, A., ii, 415.

—— —— behaviour of theophylline in the dog, A., ii, 680.

Krüger, *W.*, and *W.* **Schneidewind,** decompositions of nitrogen compounds in soil by lower organisms, A., ii, 39.

Krummacher, *Otto*, nutritive value of gelatin, A., ii, 157.

Krzemieniewski, *S.*, influence of mineral salts on the respiration of seeds during different periods of germination, A., ii, 418.

Kubierschky, *K.*, a peculiar occurrence of salts in the Magdeburg-Halberstadt basin, A., ii, 406.

Kudernatsch, *Richard*, [attempt to prepare] derivatives of methylenediamine, A., i, 427.

Kudisch, *D.*, commercial kerosenes from Kieff, A., i, 333.

Kühling, *Otto*, action of carbon dioxide and alkali salts on metallic oxides and the relative strength of hydrochloric and nitric acids, A., ii, 79, 252.

Kühn, *B.* See *W.* **Bornhardt.**

Kühn, *Julius*, assimilation of free nitrogen by soil bacteria without symbiosis with Leguminosæ, A., ii, 38.

Kuenen, *Johan Pieter*, liquefaction of gaseous mixtures, A., ii, 491.

Kuenen, *Johan Pieter*, and *W. G.* **Robson,** thermal properties of carbon dioxide and of ethane, A., ii, 595.

—— —— observations on mixtures with maximum or minimum vapour pressures, A., ii, 599.

Küspert, *Franz*, lecture experiment: colloidal silver, A., ii, 656.

Küster, *Friedrich Wilhelm*, electrochemical behaviour of sulphur, A., ii, 640.

Küster, *William*, bile-pigments, A., i, 388.

—— hæmatin, A., i, 845.

Kufferath, *August*, pyrazolone-3-acetic acid, A., i, 58.

Kuhara, *Mitsuru*, and *Masumi* **Chikashigé,** methyl derivatives of indigotin, A., i, 227.

Kuhara, *Mitsuru*, and *M.* **Fukui,** action of aromatic amines on phthalyl chloride at different temperatures, A., i, 34.

Kulisch, *Paul*, manurial experiments with sodium nitrate in the red-wine district of Ahrthal, A., ii, 43.

Kullgren, *Carl*, inversion, A., ii, 647.

Kunckell, *Franz*, and *O.* **Sarfert,** action of benzamidine on β-bromo-ω-benzylacetophenone, A., i, 835.

Kunckell, *Franz*, and *Franz* **Vossen,** action of ammonia on αβ-dichlorostyrenes, A., i, 599.

—— —— action of phenylhydrazine and of phenylmethylhydrazine on αβ-dichloro-*p*-methylstyrene, A., i, 645.

Kunckell, *Franz*, and *Leo von* **Zumbusch,** action of mucobromic and mucochloric acids on benzamidine, A., ii, 835.

Kunlin, *Julius.* See *Emil* **Erlenmeyer,** *jun.*

Kunz, *Johannes.* See *Alfred* **Werner.**

Kunz, *Max.* See *Alfred* **Werner.**

Kunz-Krause, *Hermann*, change of atroscine into *i*-scopolamine, A., i, 174.

Kupffer, *A. von.* See **Dupré,** *jun.*

Kuraéeff, *D.*, the albumose precipitates produced by papain and rennin (coaguloses and plasteins), A., i, 731.

Kurbatoff, *W. A.*, relation between the latent heat of evaporation and the vapour density, A., ii, 379.

Kuriloff, *Basil B.*, action of ammonia and potassium hydroxide on solutions of zinc salts, A., ii, 139.
Kurnakoff, *Nicolai S.*, separation of glauber salt [mirabilite] in the Karabugas, A., ii, 510.
—— composition of water in salt-lakes in the Crimea, A., ii, 513.
Kurnakoff, *Nicolai S.*, and *N. N.* **Pushin**, melting points of alloys of sodium with potassium, A., ii, 136.
—— —— alloys of thallium, A., ii, 139.
Kursanoff, *Nicolai*, phenylated naphthenes; phenylcyclohexane and its derivatives, A., i, 20.
—— dicyclohexyl and dimethyldicyclohexyl, A., i, 360.
Kutscher, *Friedrich*, yeast trypsin, II., A., i, 580.
—— amino-acids of the $C^nH_{2n+1}O_2N$ series, A., i, 594.
—— proteolytic enzyme of the thymus, A., ii, 153.
Kutscher, *Friedrich*, and *John* **Seemann**, digestion in the small intestine, A., ii, 335, 571.
Kyle, *T. D.* See *A. W.* **Warwick**.
Kym, *Otto*, action of sodium nitrite on 1-chloro-2:4-dinitrobenzene and picryl chloride, A., i, 16.

L.

Laar, *Conrad*, tautomeric atomic groupings, A., i, 1.
Laar, *Johannes Jacobus van*, [thermodynamics of concentrated solutions], A., ii, 122.
—— asymmetry of the electrocapillary curve, A., ii, 640.
Labhardt, *Hans*, and *R.* **Zschoche**, electrolytic oxidation of *p*-toluic acid, A., i, 289.
Lachman, *Arthur*, action of zinc ethyl on nitro- and nitroso-compounds, A., i, 198.
Lacombe, *H.*, beryllium compounds of the type $Be_4O(OR)_6$, A., i, 418.
Lacombe, *H.* See also *G.* **Urbain**.
Ladenburg, *Albert*, isoconiine, A., i, 54.
—— formation of tropine from tropidine and synthesis of atropine, A., i, 390.
—— conversion of tropidine into tropine, A., i, 639.
—— formation of ozone, A., ii, 67.
—— pure iodine, A., ii, 314.
—— atomic weight of iodine, A., ii, 498.
Laffont, *Marc*, chemical constitution and physiological action, A., ii, 466.
—— influence of the methyl group on the toxicity of various organic metallic compounds, A., ii, 620.
Lamar, *William R.* See *Wm. Jay* **Schieffelin**.
Lamb, *Arthur B.*, conversion of orthoperiodic acid into normal periodic acid, A., ii, 252.
Lamb, *George*, and *William* **Hanna**, the poison of the *Daboia russellii*, A., ii, 278.
Lambert, and *Edouard* **Heckel**, iboga root and ibogine, A., ii, 219.
Lambling, *Eugène*, action of phenylcarbimide on the esters of some hydroxy-acids, A., i, 537, 603, 756.
Lampe, *Victor*. See *Stanislaus von* **Kostanecki**.
Lander, *George Druce*, synthesis of imino-ethers. *N*-Arylbenziminoethers, T., 591; P., **1902**, 72.
Landolt, *Hans* [*Heinrich*], *Wilhelm* **Ostwald**, and *Karl* **Seubert**, third report of the Committee [of the German Chemical Society] on atomic weights, A., ii, 129.
Landrin, *Edouard*. See *J.* **Dybowski**.
Landsiedl, *Anton*, universal extraction apparatus for solvents with high and low boiling points, A., ii, 390.
—— condensers and reflux condensers, A., ii, 390.
Lane, *N. J.*, proportion of liquid fatty acids in some fats and oils and their iodine values, A., ii, 184.
Lang, *William Robert*, and *C. M.* **Carson**, solubility of the sulphides of arsenic, antimony, and tin, A., ii, 700.
Lang, *William Robert*, *C. M.* **Carson**, and *J. C.* **Mackintosh**, separation of arsenic, tin, and antimony, A., ii, 530.
Lange, *H.* See *Ludwig* **Knorr**.
Lange, *Martin*, [1:8-dihydroxynaphthaketones], A., i, 381.
Langer, *L.*, and *Bernhard* **Tollens**, assimilation by oats with different amounts of moisture in the soil and with different manures, A., ii, 41.
Langevin, *P.*, researches on ionised gases, A., ii, 301.
Langlet, *Abraham*, spectra of the rare earths, A., ii, 189.
Langstein, *Leo*, coagulable components of white of egg, A., i, 65.
—— carbohydrates of crystallised serum-albumin, A., i, 66.
—— detection of glucosamine and an acid derived from an aminohexose among the hydrolytic products of serum-albumin, A., i, 331.
—— the end product of peptic digestion, A., ii, 272, 515.
Lanser, *Theodor*, and *B. F.* **Halvorsen**, diphenyltetrenecarboxylic acid, A., i, 458.

Lapworth, *Arthur*, and *Archie Cecil Osborn* **Hann**, derivatives of *n*- and *iso*-butyrylpyruvic acids, T., 1485; P., **1902**, 141.
—— —— optically active esters of β-ketonic and β-aldehydic acids. Part I. Menthyl formylphenylacetate, T., 1491; P., **1902**, 144.
—— —— optically active esters of β-ketonic and β-aldehydic acids. Part II. Menthyl acetoacetate, T., 1499; P., **1902**, 145.
—— —— the mutarotation of camphorquinonehydrazone and mechanism of simple desmotropic change, T., 1508; P., **1902**, 143, 146.
Lapworth, *Arthur*, and *Alfred William* **Harvey**, derivatives of α-aminocamphoroxime, T., 549; P., **1902**, 70.
Lapworth, *Arthur*, and *Walter Henry* **Lenton**, the constitution of the acids obtained from α-dibromocamphor, T., 17; P., **1901**, 148.
—— —— optically active methylbenzylacetic acid, P., **1902**, 35.
Laqueur, *August*, detection of mercury in urine, A., ii, 359.
Lasne, *Henri*, ammonium calcium phosphate, A., ii, 320.
Lauder, *Alexander*. See *James Johnstone* **Dobbie**, and *Walter Noel* **Hartley**.
Lauenstein, *O.*, gravimetric estimation of sugar, A., ii, 179.
Launoy, *L.*, elaboration of zymogen in the gastric glands of the *Viper berus*, A., ii, 613.
—— the proteolytic action of venins, A., ii, 673.
Laurent, *Émile*, [effect of manures on] the development of leguminous root nodules, A., ii, 167.
Lauterwald, *Franz*. See *August* **Michaelis**.
Laxa, *O.*, decomposition of butter fat by micro-organisms, A., ii, 97.
Leach, *Albert E.*, systematic inspection of milk for preservatives, A., ii, 113.
Leather, *John Walter*, the sampling of soils, T., 883; P., **1902**, 125; discussion, P., 125.
—— some excessively saline Indian well waters, T., 887; P., **1902**, 127; discussion, P., 128.
Leathes, *J. B.*, the proteolytic enzyme of the spleen, A., ii, 615.
Lebeau, *Paul*, condition of silicon in cast iron and ferrosilicon, A., ii, 135.
—— action of some reagents on amorphous silicon, A., ii, 255.
—— lithium antimonide and some other alloys of lithium, A., ii, 256.
Lebeau, *Paul*, action of lithium-ammonium on antimony, and the properties of lithium antimonide, A., ii, 256.
—— cementation of iron by silicon, A., ii, 264.
—— arsenides of the metals of the alkaline earths, A., ii, 395.
—— compounds of iron and silicon, A., ii, 457.
Lebeau, *Paul*. See also *Henri* **Moissan**.
Le Blanc, *Max*, and *Emil* **Bindschedler**, formation of insoluble precipitates by means of electrolysis with soluble anodes, A., ii, 442.
Lecomte, *Henri*, formation of the perfume of vanilla, A., ii, 40.
Ledoux-Lebard, anti-paramœcic serum, A., ii, 680.
Leduc, *Anatole*, electrolysis of silver nitrate, A., ii, 592.
—— the electrochemical equivalent of silver, A., ii, 593.
Lee, *Frederic S.*, and *William* **Salant**, action of alcohol on muscle, A., ii, 274, 675.
Lee, *W. C.* See *Barker* **North**.
Leent, *Frederik Hendrik van*, separation and estimation of small amounts of potassium in saline mixtures, A., ii, 48.
Leer, *S. A. van*, effects on the constituents of the blood of intravascular injection of hypertonic salt solutions, A., ii, 411.
Lees, *Frederic Herbert*, methyl β-methylhexyl ketone, T., 1594; P., **1902**, 193.
—— interaction of ketones and aldehydes with acid chlorides; the formation of benzoxyolefines and 1-benzoxycamphene, P., **1902**, 213.
Lees, *Frederic Herbert*. See also *Frederick Belding* **Power**.
Leffler, *Rudolf L.*, estimation of carbon in steel by direct combustion, A., ii, 355.
Léger, *Eugène*, derivatives of anthraquinone obtained in the action of sodium peroxide on aloins and their haloid derivatives, A., i, 549.
—— constitution of aloins: comparison with that of glucosides, A., i, 685.
—— characterisation of aloes and their detection in pharmaceutical preparations, A., ii, 484.
Le Goff, *J.*, colour reactions of red blood-corpuscles in diabetes, A., ii, 544.
Legrand, *J.*, analysis of superphosphates, A., ii, 627.
Lehmann, and **Strohé**, analysis of silicates, A., ii, 175.

Lehmann, *Karl Bernhard*, formation of oxidation ferments (tyrosinase) by Bacteria, A., i, 580.
—— action of metallic copper on roots, A., ii, 420.
Lehmann, *Karl Bernhard*, and *Erwin* **Voit**, formation of fat from carbohydrate, A., ii, 155.
Lehmann, *Louis*. See *Eduard* **Buchner**.
Lehmann, *Martin*. See *Arthur* **Hantzsch**.
Leidié, *Émile*, double nitrites of iridium, A., ii, 566.
Leidié, *Émile*, and **Quennessen**, action of sodium peroxide on the metals of platinum ore, A., ii, 360.
Leimbach, *Robert*. See *Theodor* **Curtius**.
Leisse, *Fr*. See *Theodor* **Zincke**.
Lelli, *G*. See *C*. **Ulpiani**.
Lemme, *R*. See *Paul* **Duden**.
Lemmermann, *Otto*. See *Theodor* **Pfeiffer**.
Lemoult, *Paul*, organic additive compounds, A., i, 751.
Lengfeld, *Felix*, new proof of the formula $d = 0{\cdot}02T^2/L$, A., ii, 5.
—— gold haloids, A., ii, 27.
Lengfeld, *Felix*, and *James H.* **Ransom**, influence of electrical waves on chemical action, A., ii, 4.
Lenher, *Victor*, tellurium tetrachloride, A., ii, 316.
—— action of selenic acid on gold, A., ii, 402.
—— naturally occurring telluride of gold, A., ii, 402
Lenton, *Walter Henry*. See *Arthur* **Lapworth**.
Leonard, *Norman*, sublimed sulphur, A., ii, 131.
—— relation between specific gravity, fat, and solids not fat in milk, A., ii, 183.
Leonhardt, *A*. See **Farbwerk Mühlheim vorm. *A*. Leonhardt & Co.**
Lepeschkin, *Nicolaus*. See *Nicolai D.* **Zelinsky**.
Lépine, *Raphael*, and **Boulud**, sugars of the blood and glycolysis, A., ii, 151.
—— —— *post-mortem* occurrence of maltose in the liver, A., ii, 218.
—— —— *post-mortem* occurrence of glycuronic acid in the liver, A., ii, 218.
—— —— estimation of sugars in the blood, A., ii, 434.
—— —— glycuronic acid in dog's blood, A., ii, 619.
Lépine, *Raphael*, and **Maltet**, excretion of sodium chloride after extirpation of the pancreas, A., ii, 616.
—— —— influence of phloridzin on the elimination of sodium chloride, A., ii, 617.
Lépine, *Raphael*, and **Maltet**, the elimination of chlorides and phosphates in experimental glycosuria, A., ii, 678.
Lepoutre, *L*., production of parasitic races from common Bacteria, A., ii, 467.
Lesage, *Pierre*, and **Dongier**, study of lactic fermentation by observations of electrical resistance, A., ii, 343.
Lesage, *Pierre*. See also **Dongier**.
Leser, *Georges*, β-diketones, III., A., i, 261.
—— synthesis of menthone, A., i, 550.
Leslie, (*Mdlle*.) *C. de*, influence of spermotoxin on reproduction, A., ii, 32.
Lespieau, *Robert*, bromomalonic dialdehyde, A., i, 13.
Lessing, *A*. See *Walther* **Nernst**.
Lessing, *Rudolf*. See *Richard* **Willstätter**.
Le Sueur, *Henry Rondel*. See *Arthur William* **Crossley**.
Letts, *Edmund Albert*, and *Robert Frederick* **Blake**, some problems connected with atmosperic carbon dioxide, and a new and accurate method for estimating its amount suitable for scientific expeditions, A., ii, 226.
Letts, *Edmund Albert*, *Robert Frederick* **Blake**, *W*. **Caldwell**, and *John* **Hawthorne**, nature and speed of the chemical changes which occur in mixtures of sewage and sea water, A., ii, 221.
Leuba, *Auguste F*., detection of nitrates in the presence of alkali ferro- and ferri-cyanides, A., ii, 583.
—— influence of potassium ferrocyanide on the precipitation of phosphoric acid by molybdate solution, A., ii, 585.
—— detection of iodine and bromine in the presence of thiosulphates, A., ii, 691.
Leuchs, *Hermann*. See *Emil* **Fischer**.
Leuscher, *E*., production of arrowroot, A., ii, 283.
—— cassava, A., ii, 284.
—— mineral in Jamaica soils, A., ii, 286.
—— bananas, A., ii, 421.
Levene, *Phoebus A*., glucophosphoric acid, A., i, 347.
—— embryo-chemical investigations, A., ii, 333.
Levene, *Phoebus A*. See also *Emil* **Fischer**.
Levi, *G*., absorption of gas in organic solvents and in their solutions, A., ii, 247.
Levi, *Mario*. See *Carlo* **Formenti**.
Levin, *M*. See *Simeon M.* **Tanatar**.
Levites, *S. A*., gelatinisation, A., ii, 312.
Levy, *Paul*. See *Julius* **Bredt**.

Lewin, *Carl*, formation of phenol and indoxyl as intermediate metabolic products and their relationship to glycuronic acid excretion, A., ii, 272.
Lewin, *Louis*, green colouring matter from the blood of animals poisoned by phenylhydrazine, A., i, 67.
—— certain biological characters of phenylhydrazine, A., ii, 160.
Lewis, *Edward Watkin*, tribromophenol bromide (dibromobenzene ketodibromide), T., 1001 ; P., **1902**, 177.
Lewis, *Warren H.* See *Jacques* **Loeb.**
Lewkowitsch, *Julius*, oxidised oils, A., i, 528.
Ley, *Heinrich*, preparation of oxyamidines, A., i, 445.
Ley, *Heinrich*, and *Konrad* **Schaefer**, chemistry of mercury, III., A., i, 357.
—— —— silver derivatives of acid amides and imides, A., i, 358.
Lhotak de Lhota, conservation of muscular energy in an atmosphere of carbon dioxide, A., ii, 675.
Lichty, *David M.*, velocity of esterification and the electrical conductivity of α-, β-, γ-, and δ-halogen derivatives of aliphatic acids, A., i, 201.
Lidbury, *Frank Austin*, melting of dissociating compounds, A., ii, 242.
Lidbury, *Frank Austin.* See also *David Leonard* **Chapman.**
Lidoff, *Alexander P.*, gravimetric estimation of gaseous nitrogen, A., ii, 353.
Lieben, *Adolf*, action of dilute acids on glycols, A., i, 336.
Liebermann, *Carl* [*Theodor*], solubility of silver benzoate, A., i, 368.
—— dyeing with mordants, A., i, 475.
—— adjective colouring matters of the benzaldehyde-green and rosamine groups, A., i, 636.
Liebermann, *Carl*, and *W.* **Hohenemser**, hystazarin, A., i, 548.
Liebermann, *Carl*, and *S.* **Lindenbaum**, dyes of the æsculetin series, II., A., i, 785.
—— —— acetylation of cochenillic acid, A., i, 787.
Liebermann, *Carl*, and *C. N.* **Rüber**, allophenylbutadiene, A., i, 669.
Liebermann, *Carl*, and *F.* **Wölbling**, dihydroxyfluoresceins and dihydroxyeosins, A., i, 546.
Liebrecht, *Arthur*, dialkylamides of isovaleric and α-bromoisovaleric acids, A., i, 714.
Lilienthal, manurial experiments with beans and barley on heavy marsh soil, A., ii, 42.
Lillie, *Ralph S.*, *rôle* of the cell nucleus in oxidation and synthesis, A., ii, 271.
Lillie, *Ralph S.*, effects of various solutions on ciliary and muscular movement in the larvæ of Arenicola and Polygordius, A., ii, 340.
—— oxidative properties of the cell-nucleus, A., ii, 621.
Limpach, *Leonard.* See *William Richard Eaton* **Hodgkinson.**
Linari, *Adolfo.* See *Pietro* **Bartolotti.**
Lindenbaum, *S.* See *Carl* **Liebermann.**
Lindet, *Léon*, transformation of new bread into old, A., i, 427.
—— estimation of starch in the grain of cereals, A., ii, 55, 292.
—— composition of the products resulting from the grinding of wheat by means of millstones and rollers, A., ii, 102.
Lindlay, *W. G.*, colorimetric estimation of sulphur in pig-iron, A., ii, 425.
Ling, *Arthur Robert*, malt analysis, A., ii, 636.
Ling, *Arthur Robert*, and *Bernard F.* **Davis**, experiments on malt diastase, A., i, 732.
Lingenbrink, *Edmund.* See *Max* **Busch.**
Linn, *Alvin F.*, electrolytic deposition of lead from a phosphoric acid solution, A., ii, 475.
Lintner, *Carl Joseph*, isolation of malt enzymes and the proteolytic enzyme of malt, A., i, 847.
Lipman, *J. G.*, studies in nitrification, A., ii, 423.
Lipp, *Andreas.* See *W.* **Feuerstein.**
Lippmann, *Edmund O. von*, inversion of sucrose, A., i, 84.
—— sugar of mahwa-blossoms, A., ii, 420.
—— the boric acid controversy, A., ii, 523.
Lippmann, *Eduard*, and *Isidor* **Pollak**, action of sulphur chloride on benzene, A., i, 750.
—— —— dibenzylanthracene, A., i, 754.
—— —— recognition of aromatic hydrocarbons, A., ii, 702.
List, *Georg.* See *Carl* **Bülow.**
Litterscheid, *Franz M.*, some compounds of pyridine with cupric and cuprous thiocyanates, A., i, 308.
—— compounds of quinoline and isoquinoline with cupric and cuprous thiocyanates, A., i, 829.
—— volumetric estimation of copper by potassium iodide, A., ii, 531.
Litterscheid, *Franz M.* See also *Ernst* **Schmidt.**
Ljubavin, *Nicolai N.*, interaction of tannin and tartar emetic, A., i, 161.
Lobeck, *Arthur.* See *Rudolf* **Boehm.**
Lobry de Bruyn, *C. A.* See **Bruyn.**
Locatelli, *Ugo K.* See *Walther* **Borsche.**

Locke, *James*, periodic system and the properties of inorganic compounds. III. The solubility of alums as a function of two variables, A., ii, 21.
—— electro-affinity as a basis for the systematisation of inorganic compounds, A., ii, 240.
—— thallic cæsium sulphates, A., ii, 397.
—— the periodic system and the properties of inorganic compounds. IV. The solubility of double sulphates of the formula $M'_2M''(SO_4)_2,6H_2O$, A., ii, 497.
Locquin, *René*, preparation of α-derivatives of β-ketonic esters, A., i, 704.
Locquin, *René*. See also *Louis* **Bouveault.**
Loczka, *Jozsef*, analyses of magnesite [and dolomite], A., ii, 89.
Loeb, *Jacques*, the influence of valency in the antitoxic action of ions, A., ii, 162, 219.
—— is the action of ions a function of their electrical charge? A., ii, 675.
Loeb, *Jacques*, *Martin H.* **Fischer**, and *Hugh* **Neilson**, artificial parthenogenesis, A., ii, 151.
Loeb, *Jacques*, and *Warren H.* **Lewis,** prolongation of the life of sea urchins' eggs by potassium cyanide, A., ii, 151.
Löb, *Walther*, pyrogenetic reactions and syntheses by means of the electric current, A., i, 3.
Loevenhart, *A. S.*, the relation of lipase to fat metabolism, A., ii, 217.
Loevenhart, *A. S.* See also *J. H.* **Kastle.**
Loew, *Oscar*, [nitrated albumins], A., i, 65.
—— formation of sugar from proteids, A., i, 407.
—— catalase, A., i, 732.
—— liming soils from a physiological point of view, A., ii, 350.
—— has hydrogen peroxide a function in cell-life? A., ii, 522.
—— lime factor for different crops, A., ii, 689.
Loew, *Oscar*, and *D. W.* **May,** relation of calcium and magnesium to plant growth, A., ii, 622.
Löwenherz, *Richard*, decomposition of organic halogen compounds by sodium amalgam in alcoholic solution, A., ii, 385.
Loewenstamm, *Willy*. See *Arthur* **Rosenheim.**
Löwenstein, *Bernh*. See *Alfred* **Werner.**
Loewi, *Otto*, the place of purine substances in metabolism, A., ii, 157.
—— synthesis of proteid in the animal body, A., ii, 273.
—— formation of sugar from fat, A., ii, 273.
Loewi, *Otto*, phloridzin diabetes, A., ii, 277.
Loewinson-Lessing, *Franz*, isomorphism of plagioclase felspars, A., ii, 147.
Lohöfer, *W.* See *Georg* **Lunge.**
Long, *John Harper*, optical rotations of certain tartrates in glycerol, A., i, 75.
Lord, *E. C. E.*, [bytownite and diopside from Maine], A., ii, 463.
Lorenz, *Richard*, direct combination of chlorine and carbon, A., ii, 452.
—— gas elements, A., ii, 485.
—— electrolysis of molten salts, A., ii, 591, 640.
Lorié, *J.*, inflammable gas in the Netherlands, A., ii, 146.
Losanitsch, *Sima M.*, linking of carbon atoms in the paraffin series, A., i, 253.
Lossow, *Emil*. See *Johannes* **Thiele.**
Louginine. See **Luginin.**
Lovat, *H.* See *C.* **Ehrmann.**
Lowry, *Thomas Martin*. See *Henry Edward* **Armstrong.**
Lublin, *Alfred*. See *Antoine Paul Nicolas* **Franchimont.**
Ludlam, *Ernest Bowman*, the preparation of mixed ketones by heating the mixed calcium salts of organic acids, T., 1185; P., **1902**, 132.
—— a simple form of Landsberger's apparatus for determining the boiling point of solutions, T., 1193; P., **1902**, 180.
Ludlam, *Ernest Bowman*. See also *Francis Ernest* **Francis.**
Ludwig, *Albert*, direct conversion of gas carbon into diamond, A., ii, 70.
—— fusion of carbon, A., ii, 451.
Ludwig, *Kurt*. See *August* **Michaelis.**
Luginin, *Wladimir F.*, correction of observed values of specific heats and heats of vaporisation of organic compounds of high boiling point, A., ii, 547.
Luginin, *Wladimir F.*, and *A.* **Schükareff**, thermal study of some alloys; zinc and aluminium, A., ii, 259.
Lukaschewitsch, *N.* See *Sergius N.* **Reformatsky.**
Luloffs, *Pieter Karel*, velocity of substitution of a halogen by an alkoxyl group in some aromatic halogen nitro-compounds, A., i, 87.
Lumière, *Auguste*, *Louis* **Lumière,** and *Henri* **Barbier,** estimation of the alkalinity of blood, A., ii, 116.
Lumière, *Auguste*, *Louis* **Lumière,** and *J.* **Chevrotier,** pharmacodynamic properties of certain aromatic semicarbazides, A., ii, 681.
Lumière, *Auguste*, *Louis* **Lumière,** and *F.* **Perrin,** glycerophosphorous acid and glycerophosphites, A., i, 9.

Lumière, *Auguste, Louis* **Lumière,** and *Alphonse* **Seyewetz,** reactions occurring in solutions employed for the combined toning and fixing of prints on silver chloride-citrate paper and the theory of this operation, A., ii, 319.

—— —— —— toning solutions containing lead thionates, A., ii, 606.

Lumière, *Louis.* See *Auguste* **Lumière.**

Lumsden, *John S.*, solubilities of the calcium salts of the acetic series, T., 350; P., **1902,** 31.

—— the equilibrium between a solid and its saturated solution at various temperatures, T., 363; P., **1902,** 31.

Lunge, *Georg,* preparation of volumetric solution of sodium arsenite, A., ii, 174.

—— analysis of pyrites and estimation of sulphuric acid, A., ii, 287.

—— the supposed reaction of brucine with nitrous acid, A., ii, 288, 427.

—— theory and practice of the lead chamber process, A., ii, 315, 605.

Lunge, *Georg,* and *W.* **Lohöfer,** analysis of mixtures of alkali silicates, carbonates, sulphates, and hydroxides, A., ii, 105.

Lusk, *Graham,* phloridzin diabetes, A., ii, 162.

—— does dextrose arise from cellulose in digestion? A., ii, 273.

Luther, *Robert,* electromotive behaviour of hypochlorous and chloric acids, A., ii, 641.

Lutschinin, *Eugen.* See *Iwan L.* **Kondakoff.**

Lutz, *Oskar,* some cases of the wandering of oxygen in the molecule, A., i, 596.

—— action of ammonia on halogen-substituted malonic acids, A., i, 658.

Luzzi, *E.* See *Luigi* **Balbiano.**

Lyle, *Thomas R.*, and *Richard* **Hosking,** temperature variations of the specific molecular conductivity and of the fluidity of sodium chloride solutions, A., ii, 440.

Lyon, *E. P.*, effects of potassium cyanide and of lack of oxygen on the fertilised eggs and embryos of the sea urchin (*Arbacia punctulata*), A., ii, 333.

Lyons, *Albert Brown,* the copper test for sugar [in urine], A., ii, 179.

—— the phenylhydrazine test for sugar, A., ii, 703.

—— estimation of sugar by fermentation, A., ii, 704.

—— separation of brucine from strychnine, A., ii, 710.

M.

Maassen, *Albert,* decomposition of nitrates and nitrites by Bacteria, A., ii, 39.

—— Gosio's biological method for the detection of arsenic and the formation of organic arsenic, selenium, and tellurium compounds by the action of Fungi and Bacteria, A., ii, 629.

Mabery, *Charles Frederic,* composition of petroleum; hydrocarbons in Pennsylvania petroleum with boiling points above 216°, A., i, 733.

Mabery, *Charles Frederic,* and *Albert H.* **Goldstein,** specific heats and heat of vaporisation of the paraffin and methylene [cycloparaffin] hydrocarbons, A., ii, 548.

McBain, *J. W.*, oxidation of ferrous solutions by free oxygen, A., ii, 209.

McCay, *Le Roy Wiley,* action of hydrogen sulphide on arsenic acid, A., ii, 135, 655.

McClung, *R. K.*, and *Douglas* **McIntosh,** absorption of Röntgen rays by aqueous solutions, A., ii, 297.

McCoy, *Herbert N.* See *Alexander* **Smith.**

McCrae, *John,* di-sec.-octyl tartrate and di-sec.-octyl dibenzoyltartrate, T., 1221; P., **1902,** 182.

McCrae, *John.* See also *Reginald B.* **Brown.**

McIntosh, *Douglas,* inorganic ferments, A., ii, 310.

McIntosh, *Douglas.* See also *R. K.* **McClung.**

MacIvor, *R. W. Emerson,* minerals occurring in Australian bat guano, A., ii, 460.

—— relations of sulphur and iodine, and the iodides of sulphur, A., ii, 650.

McKenzie, *Alexander,* the resolution of β-hydroxybutyric acids into its optically active components, T., 1402; P., **1901,** 213; **1902,** 185.

Mackintosh, *J. C.* See *William Robert* **Lang.**

McLennan, *J. C.*, a kind of radioactivity imparted to certain salts by cathode rays, A., ii, 297.

MacLeod, *Grace.* See *James F.* **Norris.**

Madan, *Henry George,* obituary notice of, T., 628.

Maercker, *Max* [*Heinrich*], and *W.* **Schneidewind,** value of forty per cent. potassium salts as compared with kainite, A., ii, 581.

Maffezzoli, *Francesco,* isovaleryl-*p*-toluidide and *m*-bromoisovaleryl-*p*-toluidide, A., i, 756.

Magnanini, *Gaetano*, [with *Carlo* **Grimaldi**], chemical equilibria between acid salts and sparingly soluble salts, A., ii, 249.

Magnier de la Source, *Louis*, estimation of the tartaric acid in wines, A., ii, 586.

Magnus-Levy, *Adolf*, acid formation in autolysis of the liver, A., ii, 517.

—— formation of higher fatty acids from sugar, A., ii, 614.

Magri, *G.* See *Ubaldo* **Antony.**

Mahla, *Friedrich*, transformation and oxidation of fenchoneimine by atmospheric oxidation, A., i, 106.

Mai, *Julius*, action of hypophosphorous acid on diazo-compounds, A., i, 245.

—— preparation of nitrogen from ammonium nitrate, A., ii, 69.

—— colorimetric estimation of arsenious acid, A., ii, 628.

Mai, *Julius*, [in part, with *Wilhelm* **Heimann**, and *Robert* **Kahn**], azo-dyes from phenylmethylglycine, A., i, 249.

Mai, *Julius*, and *Fritz* **Schwabacher**, action of monochloroacetic acid on *p*-hydroxyazobenzene, A., i, 126.

Mai, *Ludwig.* See *Martin* **Freund.**

Maier, *Johann*, new method of producing the azobenzoic acids, A., i, 192.

Maignon. See **Cadéac.**

Mailhe, *Amable*, action of cupric hydroxide on aqueous solutions of metallic salts, A., ii, 140, 261.

Maillard, *Louis*, polymerised condition of ordinary indigotin and the transformation of indigotin into indirubin, A., i, 371.

Makowka, *O.*, Jolles' process for the estimation of uric acid in urine, A., ii, 182.

Malcolm, *John*, composition of egg-yolk, A., ii, 152.

Mallet, *Edouard*, and *Louis* **Friderich**, numerical studies on the equation of fluids; an expansion formula for liquids, A., ii, 644.

Mallet, *Edouard.* See also *Philippe A.* **Guye.**

Mallet, *Frederic Richard*, isometric anhydrous sulphates of the form $M''SO_4$, R'_2SO_4, T., 1546; P., **1902**, 198.

Malpeaux, *L.*, and *J.* **Delattre**, production of milk and butter; variations in the composition of butter, A., ii, 526.

Malpeaux, *L.*, and *E.* **Dorez**, production of milk and butter; variations in the richness of milk in fat, A., ii, 40.

—— —— production of milk and butter: effect of feeding on the amount of fat in milk, A., ii, 168.

Maltet. See *Raphael* **Lépine.**

Malus, *Ch.*, viscosity of sulphur, A., ii, 131.

Mameli, *E.*, and *M.* **Comella**, phenomenon observed in the inversion of flame, A., ii, 4.

Mameli, *E.* See also *Giuseppe* **Oddo.**

Manasse, *Albert*, diaminosulphonal, A., i, 348.

—— synthesis of ζ-aminoheptoic acid, A., i, 351.

Manasse, *Ernesto*, stilbite and foresite from the Elba granite, A., ii, 90.

Manley, *J. J.* See *Victor Herbert* **Veley.**

Mann, *Carl*, estimation of essential oils in spices, A., ii, 432.

Mannich, *Carl*, study of methyl nonyl ketone, methyl heptyl ketone, and their corresponding secondary alcohols, A., i, 592.

Manning, *Charlotte R.* See *Francis Gano* **Benedict.**

Mansier, filter-paper; a source of error in chemical analysis; (i) retention of a dissolved substance by filter-paper and by cotton; (ii) unequal spreading of a substance in solution when placed on filter-paper, A., ii, 690.

Maquenne, *Léon*, synthesis and properties of *l*-erythritol, A., i, 131.

Maquenne, *Léon*, and *E.* **Roux**, action of carbon disulphide on polyhydric amino-alcohols, A., i, 694.

Marc, *Robert*, influence of cerium on lanthanum containing didymium and praseodymium, A., ii, 503.

—— terbium, A., ii, 505.

Marcacci, *Arturo*, behaviour of hydrogen and oxygen in presence of water, A., ii, 392.

March, *Fr.*, action of alkyl halogen-substituted propionates on sodioacetylacetone, A., i, 257.

—— benzoyldiacetylethane and acetylmethylfurfuran, A., i, 484.

—— action of halogen esters and ketones on sodioacetylacetone, A., i, 706.

Marchal, *Em.*, influence of nutritive salts on the production of nodules on [the roots of] peas, A., ii, 167.

Marchlewski, [*Paul*] *Leon* [*Theodore*], chlorophyll, A., i, 387.

—— colouring matters obtainable by the action of isatin on extracts of *Isatis tinctoria*, A., i, 616.

—— comparison of phylloporphyrin and mesoporphyrin, A., i, 636.

Marchlewski, *Leon.* See also *J.* **Buraczewski**, *L.* **Bier**, and *Anton von* **Korczynski.**

Marcille, *René*, estimation of nitrates in chlorinated waters, A., ii, 173.

Marckwald, *Ed.* See *Fritz* **Frank**.
Marckwald, *Wilhelm*, stereochemistry of benzene, A., i, 274.
—— separation of the amyl alcohols from fusel oil, III., A., i, 418.
—— some amyl esters of substituted phthalic acids, A., i, 459.
—— radioactive bismuth-polonium, A., ii, 508.
Marckwald, *Wilhelm*, and *H.* **Dettmer**, isoquino-β-pyridine, A., i, 235.
Marckwald, *Wilhelm*, and *Otto* **Frobenius**, compounds of the ethylenimine series, A., i, 22.
Margosches, *B. M.* See *Hugo* **Ditz**.
Marić, *Albert.* See *Fritz* **Ullmann**.
Marie, *Charles*, dihydroxyisopropylhypophosphorous acid, A., i, 71, 255.
—— hydroxyisopropylphosphinic acid, A., i, 431, 714.
—— salts of hydroxyisopropylphosphinic acid, A., i, 431.
Marino, *L.* See *Augusto* **Piccini**.
Markl, the inhibition of hæmolysis by salts, A., ii, 335.
Markownikoff, *Wladimir B.*, action of nitrosulphuric acid on saturated hydrocarbons, A., i, 417.
Markownikoff, *Wladimir B.*, and *P.* **Zuboff**, condensation of higher alcohols: tricapryl alcohol, A., i, 5.
Marquis, *R.*, hydrolysis of pyromucylurethane, A., i, 302.
—— nitration of furfuran and a derivative of nitrosuccinaldehyde, A., **1902**, i, 483.
Marsh, *James Ernest*, the stereochemical formulæ of benzene, T., 961; P., **1902**, 164.
—— the constitution of metallic cyanides, P., **1902**, 248; discussion, P., 248.
Marsh, *James Ernest*, and *R. de J. Fleming* **Struthers**, auto-reduction of mercury and silver cyanides, P., **1902**, 249.
Marshall, *Arthur*, the ratios of the atomic weights, A., ii, 602.
Marshall, *Charles Robertshaw*, and *John Harrison* **Wigner**, constitution of certain organic nitrates, P., **1902**, 32.
Marshall, *Hugh*, suggested modifications of the sign of equality for use in chemical notation, A., ii, 553.
Marshall, *Hugh*, and *J. K. H.* **Inglis**, action of silver salts on solutions of ammonium persulphate, A., ii, 561.
Martens, *F. F.*, dispersion of ultraviolet rays, A., ii, 117.
Martin, *Geoffrey*, is argon an elementary substance? P., **1901**, 259.
Martin, *Geoffrey*, the radioactive elements considered as examples of elements undergoing decomposition at the ordinary temperature, together with a discussion of their relationship to the other elements, A., ii, 438.
—— mathematical expression for the valency law of the periodic table, and the necessity for assuming that the elements of its first three groups are polyvalent, A., ii, 649.
Martine, *Camille*, isomerism in the benzylidenementhones, and the preparation of an α-methyl-δ-isopropyladipic acid identical with dihydrocamphoric acid, A., i, 629.
Martini, *C.*, chlorobromo-3-hydroxybenzoic acids and their ethyl esters, A., i, 150.
Massol and **Gamel**, behaviour of calcium hypophosphite [when administered internally], A., ii, 37.
Massol, *Gustave*, heats of dissolution of solid and liquid ammonia, and the latent heat of fusion of solid ammonia, A., ii, 378.
Massol, *Gustave.* See also *Robert de* **Forcrand**.
Mather, *William T.*, new apparatus for determining the relative velocities of ions; with some results for silver ions, A., ii, 300.
Mathews, *Albert P.*, the action of pilocarpine and atropine on echinoderm embryos, A., ii, 96.
Mathews, *John Alexander.* See *William* **Campbell**.
Mathieu and **Billon**, estimation of uncombined sulphur dioxide in fermented beverages, A., ii, 582.
Matignon, *Camille*, praseodymium chloride, ii, 263.
—— acid and basic sulphates of neodymium and praseodymium, A., ii, 325.
—— preparation of anhydrous chlorides of samarium, yttrium, and ytterbium, A., ii, 505.
—— chlorinating action of a mixture of hydrochloric acid and oxygen, A., ii, 556.
Matignon, *Camille*, and *E.* **Monnet**, specific heat and atomic weight of vanadium, A., ii, 326.
Mátrai, *Gabriel*, Jolles' method of estimating uric acid, A., ii, 541.
Matthes, *Hermann.* See *Ludwig* **Knorr**.
Matthes, *Max*, hæmolysis, A., ii, 334.
Mattisson, *M.* See *Friedrich* **Kehrmann**.
Matuschek, *J.*, ferric ferrocyanide, A., i, 272.
—— preparation of a soluble Prussian blue, A., i, 357.

Matuschek, *J.*, action of solid substances on one another, A., ii, 501.

Mauch, *Richard*, physico-chemical properties of chloral hydrate and its employment in pharmaceutical chemistry, A., i, 344.

—— the swelling and solution of starch by chloral hydrate and the influence of chloral hydrate on the retardation or prevention of the iodine starch reaction, A., i, 426.

Maué, *A.* See *Heinrich* **Biltz**.

Mauthner, *Julius*, cystin, A., i, 133.

Mawrow, *F.*, phosphorus-molybdenum compounds, A., ii, 25, 144.

Maximowitsch, *Stephan*, crystalline albumin from the serum of horses' blood, A., i, 66.

Maxwell, *S. S.*, and *J. C.* **Hill**, the effect of calcium and of free oxygen on rhythmic contraction, A., ii, 621.

May, *D. W.*, relation of calcium and magnesium to plant growth, A., ii, 346, 623.

May, *D. W.* See also *Oscar* **Loew**.

Mayer, *E.* See *H.* **Wilfarth**.

Mayer, *Otto*. See *Heinrich* **Kiliani**.

Mayer, *Paul*, excretion of indoxyl, phenol, and glycuronic acid in phloridzin diabetes, A., ii, 520.

—— glycuronic acid excretion, A., ii, 616.

Maynard, *George W.*, estimation of free anhydrous and hydrated lime in cements, A., ii, 697.

Mayrhofer, *Joseph*, estimation of glycogen and starch in sausages and meat, A., ii, 180.

Mazé, *Pierre*, assimilation of sugar and alcohol by *Eurotyopsis Gayoni*, A., ii, 345.

—— assimilation of lactic acid and glycerol by *Eurotyopsis Gayoni*, A., ii, 346.

—— transformation of fatty substances into sugar in germinating oleaginous seeds, A., ii, 346.

—— mode of utilisation of ternary nourishment by plants and micro-organisms, A., ii, 577.

—— mode of utilisation of tertiary carbon by plants and micro-organisms, A., ii, 578.

—— the zymase of *Eurotyopsis Gayoni*, A., ii, 622.

Mazzara, *Girolamo*, anhydrous methyl gallate, A., i, 160.

—— action of sulphuryl chloride on pyrrole, A., i, 820.

Mazzucchelli, *Arrigo*, a peculiar cell containing chromic chloride (electrochemical equilibrium between different degrees of oxidation), A., ii, 119.

Mead, *L. D.*, and *William J.* **Gies**, reactions of various mucoids, A., i, 409.

Meerburg, *P. A.*, equilibria in systems of three components, the formation of two liquid phases being possible, A., ii, 495.

Meerum Terwogt, *P. C. E.* See *Jan Johannes* **Blanksma**.

Meerwein, *Hans*. See *Georg* **Schroeter**.

Mehner, *Hans*, coupling of toluidines with diazo-compounds, A., i, 576.

—— action of formaldehyde on methyl anthranilate, A., i, 676.

Meillère, *G.*, estimation of mercury in antiseptic solutions containing mercuric chloride, iodide, or cyanide, A., ii, 49.

—— destruction of organic matter in the analysis of substances containing phosphorus, arsenic, and metals, A., ii, 288.

Meine, *Wilhelm*. See *Julius* **Tröger**.

Meisenheimer, *Jakob*, reactions of aromatic nitro-compounds, A., i, 795.

Meister, Lucius, & Brüning. See **Farbwerke vorm. Meister, Lucius, & Brüning**.

Meldola, *Raphael*, and *John Vargas* **Eyre**, elimination of a nitro-group on diazotisation. Dinitro-*p*-anisidine and derivatives, T., 988; P., **1902**, 160.

Melikoff, *Petr G.*, behaviour of hydrogen peroxide with certain salts, A., ii, 314.

Melikoff, *Petr G.*, and *P.* **Kasanezky**, fluorovanadium compounds, A., ii, 27.

Melikoff, *Petr G.*, and *Boris E.* **Klimenko**, praseodymium peroxide and dioxide, A., ii, 140.

—— —— action of hypochlorous acid on praseodymium dioxide, A., ii, 263.

Mellor, *Joseph William*, the union of hydrogen and chlorine. V. The action of light on chlorine gas, T., 1280; P., **1902**, 169.

—— the union of hydrogen and chlorine. VI. The period of induction, T., 1292; P., **1902**, 170.

Mellor, *Joseph William*, and *W. R.* **Anderson**, the union of hydrogen and chlorine. Part IV. The Draper effect, T., 414; P., **1902**, 32.

Mellor, *Joseph William*, and *Edward John* **Russell**, the preparation of pure chlorine and its behaviour towards hydrogen, T., 1272; P., **1902**, 166.

Mendel, *Lafayette B.*, allantoin excretion, A., ii, 276.

Mendel, *Lafayette B.*, and *Donald R.* **Hooker**, lymphagogue action of the strawberry, A., ii, 520.

Mendel, *Lafayette B.*, and *Leo F.* **Rettger**, influence of the spleen on pancreatic digestion, A., ii, 615.

Menschutkin, *Nicolai A.*, influence of side chains on the properties of carbon compounds with open or closed chains. VII. Velocity of combination of heterocyclic compounds with alkyl bromides, A., ii, 493.
Mentzel, *Curt.* See *Carl* **Arnold.**
Menzies, *Alan W. Cranbrook*, the sensitiveness of a thermoregulator, P., **1902**, 10.
Merck, [*Carl*] *Emanuel*, derivatives of the alkali metals and cyclic aminoketones, A., i, 86.
—— benzoyl-lupinine, A., i, 486.
Merckens, *Otto.* See *Fritz* **Fichter.**
Merigold, *Benjamin S.* See *Theodore William* **Richards.**
Merk, *B.* See *Heinrich* **Kiliani.**
Merkel, *H.* See *Alexander* **Eibner.**
Merrell, *Charles G.* See *Harry Mann* **Gordin.**
Merriam, *Henry F.* See *Henry Lord* **Wheeler.**
Merrill, *George P.*, a stony meteorite which fell at Felix, Alabama, A., ii, 92.
—— [analysis of talc, halloysite and lenzinite], A., ii, 462.
—— meteorite from Admire, Kansas, A., ii, 569.
Metzger, *Floyd J.*, separation of thorium, A., ii, 431.
Metzger, *Richard.* See *Otto* **Dimroth.**
Meunier, *Léon*, certain reactions produced by the aid of magnesium amalgam, A., i, 335.
—— estimation of pepsin in gastric juice, A., ii, 236.
Meunier, *Stanislas*, meteoric iron from Guatemala, A., ii, 333.
Meusser, *Adolf*, metallic chlorates; studies on the solubility of salts, X., A., ii, 392.
Meusser, *Adolf.* See also *Otto* **Ruff.**
Meyer, *Carl.* See *Hans* **Stobbe.**
Meyer, *Diedrich*, [manurial] action of various calcium and magnesium compounds, A., ii, 44.
Meyer, *Erich*, alcaptonuria, A., ii, 417.
Meyer, *Ernst von*, [and, in part, by *Alfr.* **Friessner**, and *Th. von* **Findeisen**], ethyl acetoacetate and its derivatives, A., i, 657.
Meyer, *Felix.* See *Daniel* **Vorländer.**
Meyer, *Fernand*, compounds of gold and chlorine, A., ii, 86.
Meyer, *Hans*, the formation of acid chlorides by means of thionyl chloride, A., i, 31.
Meyer, *Hans*, arecoline and arecaidine, A., i, 390.
—— 2-cyanopyridine, A., i, 727.
Meyer, *Heinrich.* See *Otto* **Wallach.**
Meyer, *Jacob*, and *Otto* **Stillich**, action of formaldehyde on *p*-nitroaniline, A., i, 319.
Meyer, *Julius*, formation of dithionic acid, A., ii, 14.
—— polyhalogen compounds of the alkaline earth metals, A., ii, 319.
—— atomic weight of selenium, A., ii, 392.
—— compounds of phosphorus and selenium, A., ii, 393.
—— selenium, II., A., ii, 605.
Meyer, *Julius.* See also *Wilhelm* **Biltz.**
Meyer, *Konrad.* See *Ludwig* **Claisen.**
Meyer, *Richard Jos.*, compound of thallium chloride with organic bases, A., i, 393.
—— thallic chloride, A., ii, 658.
Meyer, *Richard Jos.*, and *M.* **Koss**, action of alcoholic hydrogen chloride on the cerite oxides, A., i, 692.
—— new method of separating cerium from mixtures of rare earths, A., ii, 262.
Meyerhoffer, *Wilhelm.* See *Giuseppe* **Bruni**, and *Jacobus Henricus van't* **Hoff.**
Mez, *G.*, crystallography of some derivatives of carbamide, A., i, 86.
Michael, *Arthur*, [with *W. H.* **Graves**, and *W. W.* **Garner**], substitution process in the fatty series, A., i, 69.
Michael, *Arthur*, [with *T. H.* **Mighill**], law governing the formation of additive products and their subsequent decomposition, A., i, 129.
Michael, *Arthur*, [and, in part, *William R.* **Whitehorne**], the three cinnamic acids, A., i, 32.
Michaeladze, *W.* See *Wladimir N.* **Ipatieff.**
Michaelis, [*Carl Arnold*] *August*, 1-phenyl-2:3-dimethyl-5-thiopyrazolone, A., i, 120.
Michaelis, *August*, [with *Hans* **Bindewald**, and *Max* **Stein**], thio- and seleno-antipyrines and the constitution of antipyrine, A., i, 315.
Michaelis, *August*, [with *Victor* **Bruder**, *Ernest* **Büschler**, *Hermann* **Eisenlohr**, *Georg* **Eppenstein**, *Paul* **Fromm**, *Heinrich* **Hilbenz**, *Hilmar* **Klatt**, *Wilhelm* **Oberg**, *Hermann* **Pasel**, *Richard* **Seeman**, *Adolf* **Traegel**, *Karl* **Ulrich**, *Friedrich* **Ziegler**], aromatic arsenic compounds, A., i, 411.

Michaelis, *August,* [with *Ernst* **Büschler,** *Hermann* **Eisenlohr,** *Max* **Heine,** *Dionysius von* **Karchowski,** *Wilhelm* **Krahe,** *Franz* **Lauterwald,** *Kurt* **Ludwig,** *Wilhelm* **Oberg,** *Hermann* **Predari,** *Adolf* **Rotter,** *Alfred* **Schaeuble,** *Felix* **Schneemann,** *Adolf* **Traegel,** *Karl* **Ulrich,** *Wilhelm* **Weber,** and *Emil* **Weiss**], aromatic arsenic compounds, A., i, 515.

Michaelis, *August,* and *R.* **Hanish,** ethyl 2:6-dimethyl-4-chloronicotinate, A., i, 823.

Michel, *Karl,* and *Karl* **Spitzauer,** trimethylpentanolic acid, A., i, 257.

—— —— condensation of cinnamaldehyde with isobutaldehyde, A., i, 292.

Micklethwait, (*Miss*) *Frances M. G.* See *Martin Onslow* **Forster.**

Micko, *Karl,* analysis of meat extracts and vegetable extracts, A., ii, 369.

Mighill, *T. H.* See *Arthur* **Michael.**

Milesi, *A.* See *Luigi* **Francesconi.**

Miller, *Edmund Howd,* ferrocyanides of cadmium, A., i, 429.

Miller, *Edmund Howd,* and *Robert W.* **Page,** estimation of cadmium, A., ii, 49.

Miller, *Emerson R.,* essential oil of *Asarum arifolium,* A., i, 809.

Miller, *Norman Harry John,* the amounts of nitrogen, as ammonia and as nitric acid, and of chlorine in the rain-water collected at Rothamsted. Report to the Lawes Trust Committee, P., **1902,** 88.

—— the amounts of nitrogen, as nitrates, and chlorine in the drainage through uncropped and unmanured land. Report to the Lawes Trust Committee, P., **1902,** 89.

Millosevich, *Federico,* crystallographic study of Alvisi's luteocobaltiammine perchlorates, A., ii, 24.

Mills, *J. E.,* molecular attraction, A., ii, 596.

Mills, *William Hobson,* and *Thomas Hill* **Easterfield,** derivatives of dibenzoylmesitylene, T., 1311; P., **1902,** 167.

Minguin, *Jules,* crystallographic properties of benzylidene-, methylsalicylidene-, ethylsalicylidene-, and anisylidene-camphor, and of their reduction products, A., i, 632.

—— crystallography of methyl methylcamphocarboxylate, ethyl methylcamphocarboxylate, methylcamphoronitrile, and methylcamphorimide, A., i, 658.

—— crystallography of the borneols and of their esters and of chloral and bromal bornylate, A., i, 684.

Minguin, *Jules,* crystallography of the brominated derivatives of benzylidenecamphor and of benzylcamphor, A., i, 685.

—— enantiomorphic structure of some compounds of camphor revealed by etching; resolution of racemic benzylidenecamphor; isomorphism of its active components, A., i, 798.

Minguin, *Jules,* and *E. Grégoire de* **Bollemont,** variation in the rotatory power of the esters of *l*-borneol, A., i, 383.

Miniat, *K.,* monohydroxybenzylidenebromoindanones, A., i, 296.

Minozzi, *A.,* analysis of pyritic residues, A., ii, 358.

Misslin, *Émile.* See *Friedrich* **Kehrmann.**

Mittasch, *Alwin,* chemical dynamics of nickel carbonyl, A., ii, 307.

Mittelbach, *Franz,* alcaptonuria, A., ii, 160.

Mittelstenscheid, *Erich.* See *Otto* **Wallach.**

Mixter, *William Gilbert,* determination of the heat of dissociation and of combustion of acetylene, ethylene, and methane, A., ii, 60.

Miyamota, *S.* See *Hans* **Friedenthal.**

Mjöen, *J. Alfred,* composition of Norwegian wood tar, A., i, 273.

Möhlau, *Richard,* and *Karl Paul* **Graelert,** benzeneazo-β-naphthylauramine, A., i, 63.

Möhlau, *Richard,* and *Max* **Heinze,** synthesis of aryl-leucauramines, A., i, 243.

Möhlau, *Richard, Max* **Heinze,** and *R.* **Zimmermann,** new reactions of leucauramines, A., i, 244.

Möhlau, *Richard, K.* **Klimmer,** and *Edmund* **Kahl,** dyes of the Capri-blue group, A., i, 838.

Moerman, *L.,* composition of cow's milk, A., ii, 626.

Mörner, *Carl-Thore,* estimation of minute quantities of arsenic, A., ii, 694.

Mörner, *Karl Axel Hampus,* sulphur in proteids, A., i, 331.

Moeser, *Ludwig,* and *Wilhelm* **Eidmann,** boron nitride, A., ii, 206.

Möslinger, the acids of wine and the diminution of acidity, A., ii, 180.

Moest, *M.* See *Hans* **Hofer.**

Mohr, *Otto,* influence of carbon dioxide on the action of diastase, A., i, 410.

Moir, *James,* cyanohydroxypyridine derivatives from diacetonitrile; new derivatives of ψ-lutidostyril, T., 100; P., **1901,** 69.

—— di-indigotin, P., **1902,** 194.

Moissan, *Henri*, action of potassium hydride on ethyl iodide and methyl chloride, A., i, 253.
—— new synthesis of formic acid, A., i, 255.
—— a new method of manipulating liquefied gases in sealed tubes, A., ii, 66.
—— electrolysis of ammonium chloride [and ammonium iodide] in solution in liquefied ammonia, A., ii, 71.
—— study of ammonium amalgam, A., ii, 71.
—— decomposition of calcium-ammonium and of lithium-ammonium by ammonium chloride, A., ii, 72.
—— ammonium: action of hydrogen sulphide on metalloammonium, A., ii, 72.
—— new furnace heated by the oxyhydrogen blowpipe, A., ii, 122.
—— preparation and properties of potassium hydride, A., ii, 136.
—— preparation and properties of sodium hydride, A., ii, 206.
—— properties of fused calcium oxide, A., ii, 257.
—— preparation of tantalum in the electric furnace and its properties, A., ii, 266.
—— lithium silicide, A., ii, 452.
Moissan, *Henri*, and *Walter* **Dilthey**, calcium silicide, $CaSi_2$, A., ii, 320.
Moissan, *Henri*, and *Alfred* **Holt**, vanadium silicide, A., ii, 610.
Moissan, *Henri*, and *Paul* **Lebeau**, fluorides and oxyfluorides of sulphur, A., ii, 557.
Moissan, *Henri*, and *Samuel* **Smiles**, new silicon hydrides, A., ii, 318.
—— —— new properties of amorphous silicon, A., ii, 560.
—— —— new researches on liquid silicon hydride, A., ii, 560.
Molisch, *Hans*, and *Guido* **Goldschmiedt**, scutellarin, a new substance in Scutellaria and other Labiatæ, A., i, 48.
Moll, *Leopold*, anti-urease, A., ii, 621.
Moll van Charante, *J.*, acetyl derivatives of the two methylglucosides; acetylbromodextrose, A., i, 426.
—— estimation of methoxyl with the aid of Gregor's washing-liquid, A., ii, 434.
Monnet, *E.* See *Camille* **Matignon**.
Montagne, *P. J.*, intramolecular atomic migrations, I. and II., A., i, 472.
Montanari, *Carlo*, brownish-black substance obtained by the action of zinc chloride on acetic anhydride, A., i, 200.
Montanari, *Carlo*, reaction of the phenolsulphonic reagent in the determination of nitrates by Grandval and Lajoux's colorimetric method, A., ii, 287.
Montemartini, *Clemente*, yellow santonin (chromosantonin), A., i, 545.
Montemartini, *Clemente*, and *U.* **Egidi**, acids of phosphorus. II. Velocity of hydration of pyrophosphoric acid, A., ii, 451.
Moody, *Herbert R.* See *Samuel Auchmuty* **Tucker**.
Moody, *Seth E.* See *Charles A.* **Peters**.
Moore, *Anne*, effects of solutions of various electrolytes and non-conductors on *rigor mortis* and heat rigor, A., ii, 340.
—— the power of the sulphate to neutralise the ill effects of the chloride of sodium, A., ii, 467.
Moore, *Benjamin*, and *William H.* **Parker**, osmotic properties of colloidal solutions, A., ii, 384, 413.
Moore, *B. L.* See *F. J.* **Pond**.
Moore, *Charles C.*, a study of the available mineral plant food in soils, A., ii, 422.
Moore, *E. M.* See *Herbert S.* **Jennings**.
Moore, *Russell W.*, composition of commercial potassium cyanide, A., i, 429.
Moore, *T. S.* See *John Theodore* **Hewitt**.
Moreau, *Georges*, velocity of ions in a flame containing salts, A., ii, 593.
Morel, *Albert.* See *Maurice* **Doyon**.
Morgan, *Gilbert Thomas*, influence of substitution on the formation of diazoamines and aminoazo-compounds, T., 86; P., **1901**, 236; discussion, P., 238.
—— influence of substitution on the reactivity of the aromatic *m*-diamines, T., 650; P., **1902**, 87.
Morgan, *Gilbert Thomas*, [and, in part, with *George Marshall* **Norman**], influence of substitution on the formation of diazoamines and aminoazo-compounds, T., 1376; P., **1902**, 185.
Morgen, *August.* See *C.* **Beger**.
Moritz, *B.*, and *C.* **Schneider**, action of organic acids on metallic antimony, I., A., i, 703.
Morozewicz, *Józef*, mariupolite, an extreme member of the elæolite syenites, A., ii, 668.
Morrell, *Robert Selby*, oxidation of glucosone to trihydroxybutyric acid, A., i, 531.
Morrell, *Robert Selby*, and *James Murray* **Crofts**, action of hydrogen peroxide on carbohydrates in the presence of ferrous sulphate, III., T., 666; P., **1902**, 55.

Morse, *Harmon Northrup,* and *Joseph C. W.* **Frazer,** preparation of cells for the measurement of high osmotic pressures, A., ii, 553.
Morton, *D. A.* See *J. D.* **Pennock.**
Moser, *A.* See *Nicolai D.* **Zelinsky.**
Mosseschwili, *S.* See *Pavel Iw.* **Petrenko-Kritschenko.**
Moureu, *Charles,* and *Raymond* **Delange,** condensation of acetylene hydrocarbons with alkyl esters; synthesis of acetylenic ketones and β-ketonic esters, A., i, 164.
—— —— study of the acetylene hydrocarbons: synthesis of acetylenoid ketones and their hydrolysis by alkali hydroxides; new method of synthesising β-diketones, A., i, 253.
Moureu, *Charles,* and *Henri* **Desmots,** condensation of acetylenic hydrocarbons with aldehydes; synthesis of secondary alcohols with an acetylenic linking, A., i, 289.
Mousset, *Théophile,* some derivatives of primary nitroisopentane, A., i, 254.
Mühlhauser, *Benno.* See *Fritz* **Fichter,** and *Fritz* **Ullmann.**
Müller, *Arthur,* evaluation of gelatin and glues, A., ii, 587.
Müller, *Erich,* electrolytic estimation of iodine in presence of bromine and chlorine, A., ii, 287.
—— electromotive force of the hydrogen chlorine element, A., ii, 298.
—— electromotive behaviour of hypochlorous and chloric acids, A., ii, 591.
Müller, *Erich,* and *O.* **Friedberger,** electrolytic preparation of persulphates without a diaphragm, A., ii, 450.
—— —— preparation of periodic acid by electrolysis, A., ii, 556.
Müller, *Erich.* See also *Fritz* **Foerster.**
Müller, *Friedrich,* mucin and mucoids, A., i, 195.
Müller, *G. Hans.* See *Carl D.* **Harries.**
Müller, *Otto.* See *Karl* **Auwers.**
Müller, *Paul Theodor,* the coagulation of casein by rennet and by lactoserum, A., i, 409.
Müller, *Wolf,* a new method for titrating free and combined sulphuric acid, A., ii, 425.
—— velocity of decomposition of bromosuccinic acid in aqueous solution. I. Course of the reaction at 50°, A., ii, 647.
Müntz, *Achille,* conditions of vegetation in high yielding vineyards, A., ii, 421.
Muir, *I. C.,* condition of the blood and marrow in chronic arsenical poisoning, A., ii, 37.
Muller, *Joseph Auguste,* estimation of phosphoric acid in phosphates, A., ii, 174.
—— estimation of tin by Lenssen's method, A., ii, 177.
—— analysis of tin ores, A., ii, 177.
Muller, *Paul Thiebaut,* new method for characterising pseudo-acids applied to the alkyl oximinocyanoacetates, A., i, 354.
—— the pseudo-acids, A., i, 354.
Muller, *W.* See *Louis Casimir de* **Coppet.**
Mumme, *Erich.* See *Daniel* **Vorländer.**
Munson, *L. S.* See *L. M.* **Tolman.**
Muraro, *F.,* spectroscopic estimation of boric acid, especially in mineral waters, A., ii, 355.
Muratet, *L.* See *J.* **Sabrazès.**
Murphy, *Albert John,* two possible causes of discrepancy in arsenic analysis, A., ii, 629.
Muschinsky, *P.,* action of zinc and ethyl bromoisobutyrate on piperonaldehyde; synthesis of β-hydroxy-β-piperonyl-α-dimethylpropionic acid, A., i, 620.
Muthmann, *Wilhelm, Hans* **Hofer,** and *L.* **Weiss,** preparation of metals of the cerium group by electrolytic fusion, A., ii, 262.
Myers, *Henry C.,* substitution of hydrogen for chlorine in trichloromethylparaconic acid, A., i, 590.
Myers, *J.,* decomposition of mercury nitrates by heating, A., ii, 503.

N.

Nabl, *Arnold,* reactions of hydrogen peroxide, A., ii, 10.
Nagano, *Junzo,* absorption of simple stereoisomeric sugars in the small intestine, A., ii, 516.
Name, *R. G. van,* influence of hydrochloric acid on the precipitation of cuprous thiocyanate, A., ii, 357.
—— estimation of copper as cuprous thiocyanate in the presence of bismuth, antimony, tin, and arsenic, A., ii, 358.
Namjetkin, *S.* See *Nicolai D.* **Zelinsky.**
Nardacci, *A.* See *Luigi* **Balbiano.**
Nastukoff, *A. M.,* the oxycelluloses, A., i, 13.
—— reaction between benzene and cellulose, A., i, 362, 747.
Natanson, *Ladislaus,* laws of internal friction, A., ii, 5.
Nathansohn, *Alexander,* osmotic exchanges, A., ii, 280.
Naumann, *Kurt.* See *Julius* **Tafel.**
Neander, *E. von,* ether explosions, A., i, 527.

Nedokutschaeff, *N. K.*, changes in nitrogenous substances during the ripening of some cereals, A., ii, 281.
Nef, *John Ulric*, dissociation of the monohydric alcohols and their ethers and metallic derivatives, A., i, 6.
Neilson, *Hugh*, antitoxic effect of ions, A., ii, 621.
Neilson, *Hugh*. See also *Jacques* **Loeb.**
Neimann, *W.* See *Carl* **Neuberg.**
Nerking, *Joseph*, effect of prolonged boiling of aqueous solutions of glycogen, A., i, 206.
Nernst, *Walther*, importance of electrical methods and theories in chemistry, A., ii, 192.
Nernst, *Walther*, and *A.* **Lessing,** transmission of galvanic polarisation through platinum and palladium plates, A., ii, 639.
Nernst, *Walther*, and *E. H.* **Riesenfeld,** electrolytic phenomena at the surface of separation of two solvents, A., ii, 594.
Neuberg, *Carl*, carbohydrate groups in albumin from yolk of egg, A., i, 192.
—— isolation of ketoses, A., i, 264, 660.
—— *l*-xylonic acid, A., i, 424.
—— cystein, I., A., i, 743.
—— constitution of the pancreas-proteid-pentose, A., ii, 417.
—— Kjeldahl's method, A., ii, 426.
Neuberg, *Carl*, and *Ferdinand* **Blumenthal,** the formation of isovaleraldehyde and acetone from gelatin, A., ii, 516.
Neuberg, *Carl*, and *Felix* **Heymann,** pseudo-mucin, A., i, 511.
Neuberg, *Carl*, and *W.* **Neimann,** method of isolating aldehydes and ketones, A., i, 572.
Neuberg, *Carl*, and *H.* **Strauss,** lævulose in human body-juices, A., ii, 676.
Neuberg, *Carl*, and *Julius* **Wohlgemuth,** *d*-arabinose and *d*-arabonic acid and the estimation of arabinose, A., i, 346.
—— —— the behaviour of stereoisomerides in the animal body. I. The fate of the three arabinoses in the rabbit, A., ii, 336.
Neuberg, *Carl*, and *H.* **Wolff,** detection of chitosamine [glucosamine], A., i, 84.
Neumann, *Albert*, simple method for the estimation of iron in metabolism experiments, A., ii, 176, 583.
Neumann, *Edgar*. See *Alfred* **Coehn.**
Neumann, *O.* See *Theodor* **Remy.**
Neumann, *P.*, nitrogen-assimilating bacteria in soils, A., ii, 163.
Neumann, *R. O.*, action of alcohol on man, A., ii, 154.
Neumann, *R. O.*, physiological action of borax and boric acid; its use as a preservative of foods, A., ii, 620.
Neville, *Allen*. See *William Jackson* **Pope.**
Neville, *Francis Henry*. See *Charles Thomas* **Heycock.**
Newberry, *Spencer B.* See *Clifford* **Richardson.**
Ney, *Adolf*. See *Alfred* **Werner.**
Nicloux, *Maurice*, carbon monoxide in the blood; dissociation of carboxyhæmoglobin during life, A., ii, 215.
Nicloux, *Maurice*, and *van* **Vyve,** iron in the blood of the newly-born, A., ii, 618.
Nicola, *Francisco*, glycocyamine, glycocyamidine, and ptomaines in urines, A., ii, 679.
Nicolardot, *Paul*, separation of iron, A., ii, 22.
Nicoll, *Frank*. See *John Cannell* **Cain.**
Nicolle, *Auguste*, supposed use of oxalic acid for the preparation of hydrogen peroxide, A., ii, 56.
Niedenzu, *Karl*. See *Hans* **Stobbe.**
Niementowski, *Stefan von*, derivatives of diphenyl, A., i, 21.
—— amidine derivatives of anthranilic anhydride, A., i, 614.
Niemilowicz, *Ladislaus*, fractional oxidation with the aid of indicators and its application to the estimation of xanthine derivatives in urine, A., ii, 542.
Niemilowicz, *Ladislaus*, and *G.* **Gittelmacher-Wilenko,** the oxidation numbers of the urine in acid and alkaline solution, A., ii, 679.
Nietzki, *Rudolf*, and *Josef* **Slaboszewicz,** new synthesis of fluorindine, A., i, 125.
Nikaido, *Yasujuro*, a volumetric method for the estimation of sulphuric acid in soluble sulphates, A., ii, 692.
Nissenson, *H.*, and *F.* **Crotogino,** decomposition of ores containing much arsenic, iron and lead with sulphuric acid, A., ii, 695.
Nithack, *Richard*, [electrolytic production of benzaldehyde], A., i, 291.
Nobbe, *Friedrich*, and *L.* **Richter,** effect of nitrogen on nitrates, and of humous substances on the inoculation of leguminous plants, A., ii, 521.
Noé, *Joseph*, nitrogenous katabolism in the hedgehog, A., ii, 337.
Noël-Paton, *Diarmid*, absorption of the nitrogen from oatmeal in the dog, A., ii, 336.
—— action of *Bacillus coli communis* on urine, A., ii, 679.

Noël-Paton, *Diarmid, G. Lovell* **Gulland,** and *J. S.* **Fowler,** the spleen and blood corpuscles, A., ii, 410.

Nölting, *Emilio,* formation of rings from 1:8-derivatives of naphthalene, A., i, 314.

Nölting, *Emilio,* and *G.* **Thesmar,** nitro- and amino-derivatives of the xylenes, A., i, 313.

Nola, *E. di.* See *Ubaldo* **Antony.**

Nolf, *Pierre,* the osmotic pressure of dog's submaxillary saliva, A., ii, 152.

Noll, *Herm.,* colorimetric estimation of nitric acid in water, A., ii, 173.

Norman, *George Marshall.* See *Gilbert Thomas* **Morgan.**

Norris, *George L.,* determination of silicon in ferro-silicon, A., ii, 474.

Norris, *James F.,* and *Eric H.* **Green,** condensation of carbon tetrachloride with halogen derivatives of benzene by means of the Friedel and Crafts reaction, A., i, 379.

Norris, *James F.,* and *Eric H.* **Green,** [and, in part, *B. R.* **Rickards,** and *H. G.* **Johnson**] some new derivatives of sec.-butyl alcohol, A., i, 4.

Norris, *James F.,* and *William A.* **Kingman,** isomorphism of selenates and tellurates, A., ii, 15.

Norris, *James F.,* and *Grace* **MacLeod,** preparation of triphenylmethane, A., i, 363.

North, *Barker,* and *W. C.* **Lee,** estimation of alkali hydroxide or hydrogen carbonate in the presence of normal carbonate, A., ii, 356.

Novy, *Frederick G.* See *Paul C.* **Freer.**

Nowak, *Alexander Karl,* paraldol and viscid acetaldol, A., i, 260.

Noyes, *Albert Amos,* and *G. V.* **Sammet,** lecture experiments illustrating various types of catalytic action, A., ii, 498.

Noyes, *William Albert,* and *G. Harry* **Clay,** estimation of manganese in iron, A., ii, 430.

Noyes, *William Albert,* and *Austin M.* **Patterson,** camphoric acid. XI. Confirmation of Bredt's formula; some derivatives of inactive camphoric acid, A., i, 590.

—— —— camphoric acid. XII. Synthesis of trimethylparaconic acid, A., i, 741.

O.

Ober, *J. E.* See *Willis Rodney* **Whitney.**

Oberg, *Wilhelm.* See *August* **Michaelis.**

Oberheide, *F.* See *Edgar* **Wedekind.**

Oddo, *Giuseppe,* determination of the molecular weights of volatile substances by the boiling point method; behaviour of iodine and some inorganic oxyhaloids, A., ii, 6.

—— new nitrometer for use with the Sprengel pump, A., ii, 48.

Oddo, *Giuseppe,* and *E.* **Mameli,** Kolbe's reaction for the formation of aromatic hydroxycarboxylic acids in indifferent solvents, and its relation to the cryoscopic behaviour of the phenols in benzene and in other hydroxyl-free solvents, A., i, 33.

Oechslen, *Robert.* See *Edgar* **Wedekind.**

Oechsner de Coninck, *William,* uranous sulphate, A., ii, 84.

—— uranium sulphates, A., ii, 458.

—— action of salts on gold chloride, A., ii, 664.

Oefele, solution and estimation of coagulated proteids by thiosinamine, A., ii, 369.

Oesterreicher, *A.* See *Josef* **Habermann.**

O'Farelly, *A.* See *Jacobus Henricus van't* **Hoff.**

Ogawa, *Masataka.* See *Edward* **Divers.**

Ogier, *Jules,* and **Herscher,** the use of serum precipitants for the detection of blood spots in forensic medicine, A., ii, 635.

Oliveri-Tortorici, *Riccardo,* ethylpyromeconyl ether, A., i, 302.

Ollendorff, *Otto,* action of aldehydes on 6-phenyl-2-methylpyridine, A., i, 827.

Olszewski, *Karl,* preparation of pure stibine, A., ii, 27.

—— determination of inversion temperature of the Kelvin effect in hydrogen, A., ii, 444.

Omeliansky, *V.,* fermentation of cellulose, A., ii, 468.

Onnertz, *Paul,* derivatives of the two nitrophthalic acids, A., i, 99.

Oordt, *von,* the relation of nitrogen and carbon in infants' urine, A., ii, 416.

Oppenheim, *Alfred,* pyridazines, A., i, 186.

Oppenheim, *Kurt.* See *Arthur* **Rosenheim.**

Oppenheimer, *Karl,* nutrition of the suckling infant, A., ii, 153.

Orgler, *Arnold,* production of acetone from crystallised egg-albumin, A., i, 407.

Orloff, *N. A.,* the existence of a blue or green modification of sulphur, A., ii, 315.

—— octahydrated uranium sulphate, A., ii, 506.

—— characteristics of compounds of quadrivalent uranium, A., ii, 506.

Ortoleva, *Giovanni*, action of iodine on catechol in pyridine solution, A., i, 674.

Ortoleva, *Giovanni*, and *G. di* **Stefano**, action of iodine on a pyridine solution of quinol, A., i, 54.

Orton, *Kennedy Joseph Previte*, the nitration of *s*-trihalogen anilines, T., 490; P., **1902**, 58.

—— some *s*-chlorobromonitroanilines and their derivatives, T., 495; P., **1902**, 59.

—— the nitration of *s*-trihalogen acetanilides, T., 500; P., **1902**, 73.

——the preparation of highly substituted nitroanimobenzenes, T., 806; P., **1902**, 111.

—— the action of chlorine and bromine on nitroaminobenzenes. Part I. *s*-Trisubstituted chloronitroaminobenzenes, T., 965; P., **1902**, 174.

—— interchange of halogen for hydroxyl in chloro- and bromo-naphthalenediazonium hydroxides, P., **1902**, 252.

Orton, *Kennedy Joseph Previte*. See also *Frederick Daniel* **Chattaway**.

Osaka, *Yukichi*, tri-iodides, A., ii, 12.

Osborne, *Thomas Burr*, estimation of sulphur in proteids, A., i, 250; ii, 223.

Osborne, *Thomas Burr*, and *Isaac F.* **Harris**, nucleic acid from embryos of wheat, A., i, 847.

Osborne, *William Alexander*, caseinogen and its salts, A., i, 194.

Oshima, *Kintaro*, yeast-gum and invertase, A., i, 848.

Osmond, *Floris*, and *G.* **Cartaud**, crystallisation of iron, A., ii, 400.

Ossat, *G. de Angelis d'*. See **Angelis**.

Ost, *Hermann*, behaviour of magnesium chloride in a steam boiler, A., ii, 657.

—— behaviour of salt solutions towards copper and towards iron in the presence of copper, A., ii, 658.

Ostersetzer, *Julius*, free acid in superphosphate, A., ii, 473.

Ostoja Balicki, *G. von*, pipecoline derivatives, A., 818.

Ostwald, *Wilhelm*, catalysis, A., ii, 197.

Ostwald, *Wilhelm*. See also *Hans* **Landolt**.

Oswald, *Adolf*, thyreo-globulin, A., ii, 677.

Otto, *Fritz*, mill refuse of rye and wheat, A., ii, 687.

Otto, *Richard*, ripening of apples, A., ii, 281.

—— sand culture experiments with kohlrabi on the manures which influence the production of heads, A., ii, 284.

—— transpiration of apples, A., ii, 523.

P.

Paal, *Carl*, action of alkali hydroxides on egg-albumin, A., i, 653.

—— colloidal silver, A., ii, 500.

—— colloidal silver oxide, A., ii, 500.

—— colloidal mercuric oxide, A., ii, 503.

—— colloidal gold, A., ii, 508.

Paal, *Carl*, and *Heinrich* **Schulze**, *cis*- and *trans*-dibenzoylethylenes, A., i, 228.

Padoa, *Maurice*. See *Giuseppe* **Bruni**.

Paessler, *J.*, and *H.* **Sluyter**, estimation of free sulphuric acid in leather, A., ii, 223.

Page, *Robert W.* See *Edmund Howd* **Miller**.

Pagireff, *W.*, determination of calcium as oxalate, A., ii, 356.

Paine, *Alexander*. See *F. J.* **Poynton**.

Pakes, *Walter Charles Cross*, the effect of nitrates on certain bacteria, A., ii, 97.

Palache, *Charles*. See *John E.* **Wolff**.

Palazzo, *Carlo*, action of hydroxylamine on ethyl dimethylpyronedicarboxylate, A., i, 816.

Palladini, *Mario*. See *Luigi* **Balbiano**.

Palmaer, *Wilhelm*. See *Tycho* **Ericson-Aurén**.

Palmer, *Arthur W.*, and *William M.* **Dehn**, primary arsines, A., i, 86.

Palomaa, *M. H.*, meno-ethers of bivalent alcohols, A., i, 737.

Panchaud de Bottens, *A.*, electrolytic oxidation of naphthalene, A., i, 752.

—— depolarisation of the hydrogen electrode by compounds of the aromatic series, A., ii, 487.

Panek, *K.* See *Stanislaus* **Bondzyński**.

Panzer, *Theodor*, a derivative of casein containing sulphur and chlorine, A., i, 194.

—— action of sodium ethoxide on chlorinated casein, A., i, 332.

—— behaviour of calcium hypophosphite in the animal system, A., ii, 225.

—— resistance of morphine to putrefaction, A., ii, 295.

Paoli. See *Ubaldo* **Antony**.

Paolini, *Vincenzo*, α-hydroxyglutaric acid and the action of bromine on glutaric acid, A., i, 658.

Paolini, *Vincenzo*. See also *Luigi* **Balbiano**.

Paraschtschuk, *Simeon*, digestion of maize by fowls, A., ii, 525.

Paris, *Giulio*, chemical composition of *Fragaria vesca*, A., ii, 348.

Parker, *William H.* See *Benjamin* **Moore**.

Parmelee, *H. C.* See *Samuel* **Avery**.

Parr, *Samuel Wilson*, the peroxide calorimeter as applied to European coals and petroleum, A., ii, 432.
—— volumetric estimation of copper, A., ii, 532.
Parrozzani, *A.* See *Luigi* **Francesconi**.
Parsons, *Charles Lathorp*, identification and properties of α- and β-eucaine, A., i, 231.
Parsons, *John Herbert*, *Arcus senilis*, A., ii, 418.
Partheil, *Alfred*, and *J. A.* **Rose**, gravimetric estimation of boric acid, A., ii, 48.
Pasel, *Hermann*. See *August* **Michaelis**.
Passerini, *Napoleone*, red rain or blood rain, A., ii, 148.
Patein, *Gustave*, method of characterising physiological and pathological proteids, A., ii, 520.
—— estimation of lactose in milk, A., ii, 536.
Patein, *Gustave*, and *R.* **Brouant**, intestinal calculi, A., ii, 519.
Patein, *Gustave*, and *Émile* **Dufau**, use of acid mercuric nitrate in the analysis of sugar solutions, A., ii, 291.
Patry, *E.* See *Amé* **Pictet**.
Patterson, *Austin M.* See *William Albert* **Noyes**.
Patterson, *Thomas S.*, the influence of solvents on the rotation of optically active compounds. Part III. Influence of benzene, toluene, *o*-xylene, *m*-xylene, *p*-xylene and mesitylene on the rotation of ethyl tartrate, T., 1097; P., **1902**, 133.
—— the influence of solvents on the rotation of optically active compounds. Part IV. Influence of naphthalene on the rotation of ethyl tartrate, T., 1134; P., **1902**, 133.
—— modified forms of an adapter for vacuum distillation and of a thermoregulator, A., ii, 389.
Paturel, *G.*, phosphoric acid in wines, A., ii, 284.
—— solution of phosphoric acid in soil water, A., ii, 688.
Paul, *Benjamin Horatio*, and *Alfred John* **Cownley**, Indian ipecacuanha, A., ii, 686.
Paul, *Ludwig*. See *Stanislaus von* **Kostanečki**.
Pauli, *Wolfgang*, and *Peter* **Rona**, researches on physical changes in the condition of colloids. I. Behaviour of gelatin, A., ii, 388.
Pauly, *Hermann*, the hydropyrrole series, A., i, 559.
Pavlíček, *František*. See *Bohuslav* **Brauner**.
Pavy, *Frederick William*, and *Raymond L.* **Siau**, glycolysis in drawn blood, A., ii, 215.
—— —— formation of sugar in boiled liver, A., ii, 217.
Pawlewski, *Bronislaw*, acetylation of aromatic amines, A., i, 209.
Pecsics, *Arpád von*, allocinchonine, A., i, 725.
Pekár, *Desiderius*, molecular surface energy of solutions; molecular weight of sulphur, A., ii, 245.
Pekelharing, *Cornelis Adrianus*, pepsin, A., i, 411.
Pélabon, *Henri*, action of hydrogen on sulphides and selenides, A., ii, 253.
Pellat, *Henri*, rotatory power of sucrose; its variation with temperature and with the wave-length of the light, A., i, 234.
Pellet, *Henri*, new process for the detection and estimation of salicylic acid, A., ii, 56.
—— relation between the amounts of phosphoric acid and ammonia in plants, especially in sugar-beets, A., ii, 526.
Pellini, *Giovanni*, experiments on the atomic weight of tellurium, A., ii, 69.
Pellizzari, *Guido*, formula of triazole, I. and II., A., i, 321.
Pembrey, *Marcus Seymour*, respiratory exchange during the deposition of fat, A., ii, 149.
Penfield, *Samuel Lewis*, and *W. E.* **Ford**, calaverite, A., ii, 28.
Penfield, *Samuel Lewis*. See also *William Francis* **Hillebrand**, and *Horace Lemuel* **Wells**.
Pennock, *J. D.*, and *D. A.* **Morton**, commercial *Liquor ammoniæ*; its effect on iron, its impurities, and methods for estimating them, A., ii, 426.
Peratoner, *Alberto*, tautomerism of pyromeconic acid, A., i, 421.
—— transformation of meconic acid derivatives into hydroxypyridines, A., i, 493.
Perciabosco, *F.* See *Giorgio* **Errera**.
Perkin, *Arthur George*, myricetin. Part II., T., 203; P., **1902**, 11.
—— robinin, violaquercetin, myrticolorin, and osyritrin, T., 473; P., **1901**, 87; **1902**, 58.
—— notes on luteolin and apigenin, T., 1174; P., **1902**, 180.
—— quercetagetin, P., **1902**, 75.
—— on the destructive distillation of ethyl gallate, P., **1902**, 254.
Perkin, *Arthur George*, and *John Raymond* **Allison**, rhamnazin and rhamnetin, T., 469; P., **1900**, 181.

Perkin, *Arthur George*, and *Samuel Henry Clifford* **Briggs**, the colouring matters of green ebony, T., 210; P., **1902**, 11.

Perkin, *Arthur George*, and *Alec Bowring* **Steven**, purpurogallin, P., **1902**, 74, 253.

Perkin, *Arthur George*, and *Edward John* **Wilkinson**, colouring matter from the flowers of *Delphinium Consolida*, T., 585; P., **1900**, 182.

Perkin, *Arthur George*, and *Charles Richard* **Wilson**, a reaction of some phenolic colouring matters, II., P., **1902**, 215.

Perkin, *Arthur George*, and *E.* **Yoshitake**, constituents of *Acacia* and *Gambier Catechus*. Part I., T., 1160; P., **1902**, 139.

Perkin, *William Henry*, the magnetic rotation of some polyhydric alcohols, hexoses, and saccharobioses, T., 177; P., **1901**, 256.

—— magnetic rotation of ring compounds: camphor, limonene, carvene, pinene, and some of their derivatives, T., 292; P., **1902**, 28.

Perkin, *William Henry, jun.*, on brazilic acid and the constitution of brazilin, T., 221; P., **1899**, 27; **1900**, 106; **1901**, 257.

—— *αα*-dimethylglutaconic acid and the synthesis of isocamphoronic acid, T., 246; P., **1900**, 214.

—— brazilin and hæmatoxylin. Part IV. On dimethoxycarboxybenzoylformic acid, brazilinic acid, &c., T., 1008; P., **1902**, 147.

—— brazilin and hæmatoxylin. Part VI. The oxidation of tetramethylhæmatoxylin with chromic acid, T., 1057; P., **1899**, 27.

—— action of nitric acid on methyl dimethylacetoacetate, P., **1901**, 204.

—— synthetical preparation of carbon rings, A., i, 597.

—— degradation of brazilin, A., i, 815.

Perkin, *William Henry, jun.*, and (*Miss*) *Alice E.* **Smith**, the synthesis of *αα*-dimethylglutaric acid, of *β*-hydroxy-*αα*-dimethylglutaric acid, and of the *cis*- and *trans*-modifications of *αα*-dimethylglutaconic acid, P., **1902**, 214.

Perkin, *William Henry, jun.*, and *J.* **Yates**, brazilin and hæmatoxylin. Part III. The constitution of hæmatoxylin, T., 235; P., **1899**, 27, 75, 241; **1900**, 107; **1901**, 257.

Perkin, *William Henry, jun.* See also *Alexander William* **Gilbody**.

Perkins, *George E.*, estimation of copper by aluminium foil, A., ii, 475.

Perman, *Edgar Philip*, the influence of salts and other substances on the vapour pressure of aqueous ammonia solution, T., 480; P., **1901**, 261.

Perrin, *F.* See *Auguste* **Lumière**.

Perucchetti, *Ferdinando*, action of 2:6-diaminomethylazobenzene on benzaldehyde, A., i, 330.

Pesci, *Leone*, [formation of aromatic mercury compounds], A., i, 849.

Petermann, *Arthur*, origin of arsenic in certain beers, A., ii, 471.

Peters, *Charles A.*, and *Seth E.* **Moody**, estimation of persulphates, A., ii, 105.

Peters, *Harold*, iodonium compounds of the type IR′R″R‴, and the configuration of the iodine atom, T., 1350; P., **1902**, 184.

Peters, *Harold*. See also *Samuel Russell* **Trotman**.

Peters, *R.*, oats-cocoa, A., ii, 372.

Peters, *W.*, examination of asparagus seeds, A., ii, 281.

—— the fatty oil of *Semen coccognidii*, A., ii, 282.

Petersen, *Emil*, number of ions in metallo-ammonium compounds, A., ii, 126.

Pethybridge, *George H.*, action of inorganic salts on the development and forms of plants, A., ii, 623.

Petit, *Paul*, inversion of sucrose, A., i, 205.

Petkow, *Nikolaus*, some analysis of Bulgarian butter derived from buffaloes and sheep, also of Bulgarian lard and walnut oil, A., ii, 114.

Petrenko, *G. I.*, action of hydrogen peroxide on phosphates, A., ii, 316.

—— derivatives of perboric acid, A., ii, 317.

—— action of hydrogen peroxide on sodium arsenate Na_3AsO_4, A., ii, 499.

Petrenko-Kritschenko, *Pavel Iw.*, and *S.* **Mosseschwili**, ketone reactions of *γ*-lutidone, A., i, 190.

Petriccioli, *O.*, and *Max* **Reuter**, volumetric estimation of antimony in hydrochloric acid solution with permanganate and its practical application, A., ii, 177.

Petry, *Eugen*, autolysis in maliguant tumours, A., ii, 342.

Petschnikoff, *Alexander*, action of sulphuric acid on the [substituted] glycerol obtained from methyltert. butylallylcarbinol, A., i, 338.

Peytoureau, *A.*, polarimetric determination of lactose, A., ii, 361.

Pfaff, *A.*, estimation of formaldehyde, A., ii, 705.

Pfanhauser, *W., jun.*, dispersion of the lines of current in electrolytes, A., ii, 3.
—— tin sponge and crystals formed by electrolysis, A., ii, 265.
Pfaundler, *M.*, effect of compression of the ureter on the urine, A., ii, 617.
Pfeffermann, *Ephraim.* See *Julius* **Tafel.**
Pfeiffer, *Paul*, new methods for the preparation of dithiocyanochromium salts, A., i, 138.
—— chromammonium compounds, II., A., i, 138.
—— ferrous chloride pyridine, A., i, 175.
—— tetra-aquodipyridinechromium salts, A., i, 728.
—— action of ethyl iodide on potassium stannite, A., i, 749.
—— halogen salts, A., ii, 498.
Pfeiffer, [*Franz Wilhelm*] *Theodor* [*Christian*], metabolism in horses, A., ii, 272.
Pfeiffer, *Theodor*, *Otto* **Lemmermann**, *R.* **Rieckf**, and *C.* **Bloch**, value of the nitrogen in farmyard manure and its analytical determination, A., ii, 423.
Pflüger, *Eduard* [*Friedrich Wilhelm*], absorption of fat, A., ii, 155, 273.
—— *rôle* of the bile in saponification, A., ii, 412.
—— estimation of glycogen, A., ii, 586.
—— glycogen during inanition, A., ii, 618.
Phelps, *C. S.*, study of rations fed to milch cows in Connecticut, A., ii, 579.
Phisalix, *C.*, action of viper venom on the blood of the dog and rabbit, A., ii, 672.
Phisalix, *C.*, and *Gabriel* **Bertrand**, venom of the common toad, A., ii, 576.
Piccard, *Jules*, plastic and adhesive properties of glass at the ordinary temperature, A., ii, 5.
Piccini, *Augusto*, and *V.* **Fortini**, thallic alum, A., ii, 607.
Piccini, *Augusto*, and *L.* **Marino**, some vanadium compounds of the type VX_2, A., ii, 663.
Piccinini, *Antonio*, preparation of *n*-methylgranatanine by the electrolytic reduction of *n*-methylgranatonine, A., i, 488.
Piccinini, *Antonio*, and *L.* **Salmoni**, hydrazides of 2-pyrrolecarboxylic acid and of 2-indolecarboxylic acid and their transformations, A., i, 491.
Piccioli, *L.*, soils suitable for chestnuts, A., ii, 285.
Piccoli, *Gabriel.* See *Zdenko Hanns* **Skraup.**
Pick, *Ernst P.*, immune substances, A., ii, 163, 278.
—— peptic digestion of fibrin, A., ii, 673.
Pickard, *Robert Howson*, *Charles* **Allen**, *William Audley* **Bowdler**, and *William* **Carter**, hydroxyoxamides, II., T., 1563; P., **1902**, 197.
Pictet, *Amé*, and *Paul* **Genequand**, compound of acetic acid with nitric acid, A., i, 584.
Pictet, *Amé*, and *E.* **Patry**, action of alkalis on phenanthridine and acridine methiodides, A., i, 644.
Pictet, *Amé*, and *Albert* **Steinmann**, mechanism of the formation of pyrrole from the salts of mucic acid, A., i, 562.
Pierstorff, *Hermann.* See *August* **Klages.**
Piesen, *Richard.* See *Rudolf* **Wegscheider.**
Piloty, *Oscar*, connection between bisnitrosyl compounds and nitroso-compounds, A., i, 734.
Piloty, *Oscar*, and *Hermann* **Steinbock**, halogenated nitroso-compounds of diketocyclohexamethylene and a secondary nitroso-compound, A., i, 735.
Piloty, *Oscar*, and *A.* **Stock**, constitution of ψ-nitroles and some bromonitrosohydrocarbons, A., i, 734.
Pilz, *F.* See *Franz W.* **Dafert.**
Pinner, *Adolf*, [and *M.* **Donchi**, *Paul* **Drexler**, and *B.* **Bay**], esters of pyridoylacetic acids, A., i, 176.
Pinner, *Adolf*, and *Rudolf* **Schwarz**, pilocarpine, A., i, 232, 638.
Pinnow, *Johannes*, preparation of tertiary aromatic bases from their alkyl haloids, A., i, 92.
—— reduction of aromatic nitro-compounds with tin and hydrochloric acid, A., i, 671.
Pissarjewsky, *L.*, thermochemistry of the action of hydrogen peroxide on vanadates and pervanadates, A., ii, 326.
—— action of hydrogen peroxide and sodium hypochlorite on the oxides of thorium, zirconium, and cerium, A., ii, 565.
—— pertungstic, hyperuranic, and pervanadic acids, A., ii, 663.
Pitsch, *Otto*, green manuring, A., ii, 286.
Piutti, *Arnaldo*, and *E.* **Comanducci**, acids of *Bignonia Catalpa*, A., ii, 523.
Plancher, *Giuseppe*, condensation products of pyrrole, A., i, 640.
Planck, *Max*, thermodynamics and the dissociation theory for binary electrolytes, A., ii, 597.

Plattner, *Ernst*. See *Stanislaus von* **Kostanecki**.
Pleus, *B.*, reduction of quinizarin and anthrarufin with hydrogen iodide, A., i, 773.
Plot, *Johann*, formation of carbamide from nitrogeneous substances, A., i, 138.
Plotnikoff, *Wladimir A.*, compounds of aluminium bromide with bromine and carbon disulphide, II., A., ii, 21.
—— electrical conductivities of solutions in ethyl bromide, A., ii, 639.
Plowman, *Amon B.*, certain relations of plant growth to ionisation of the soil, A., ii, 683.
Plumier, *Léon*, changes in the composition of gas injected into the subcutaneous tissues, A., ii, 150.
Plymen, *Francis Joseph*. See *Alfred Daniel* **Hall**.
Pohl, *William*. See *Arthur* **Hantzsch**.
Polenske, *Eduard*, physiological action of borax and boric acid; its use as a preservative of foods, A., ii, 620.
Pollacci, *Egidio*, analysis of the saccharoid marble of Carrara, A., ii, 268.
—— new reagent for the detection of albumin in urine, A., ii, 369.
Pollacci, *Gino*, respiration of hydrogen and hydrocarbons through the green parts of plants, A., ii, 99.
Pollak, *Isidor*. See *Eduard* **Lippmann**.
Pollak, *Jacques*, cotoin, A., i, 165.
Pollak, *Jacques*, and *M.* **Solomonica**, nitroso-derivative of methylphloroglucinol dimethyl ether, A., i, 148.
Pollak, *Jacques*. See also *Josef* **Herzig**.
Pollak, *Leo*, the fate of sodium thiocyanate in the organism, A., ii, 616.
Pollard, *William*. See *Jethro Justinian Harris* **Teall**.
Pomeranz, *Cæsar*, ethoxyisoeugenol (monoethoxymethylpropenylcatechol ether), A., i, 93.
—— isochavibetol, A., i, 93.
Pommerrenig, *Ernst*, decomposition of guanidine in the animal body, A., ii, 274.
Pond, *F. J.*, *E. S.* **Erb**, and *A. G.* **Ford**, action of methyl and ethyl alcohols on the bromides of certain propenyl compounds, A., i, 449.
Pond, *F. J.*, *H. J.* **York**, and *B. L.* **Moore**, α-hydroxybenzylidenacetophenone, A., i, 105.
Pond, *G. G.*, nitroglycerol in an exhumed body, A., ii, 361.
Poni, *Petrus*, action of nitric acid on isopentane, A., i, 581.
Ponsot, *A.*, limit of chemical reactions and of the product *PV*, A., ii, 9.
Ponsot, *A.*, specific heat of substances at the absolute zero, A., ii, 378.
Pontio, analysis of an alloy containing antimony, tin, and copper, also iron and lead, A., ii, 478.
Ponzio, *Giacomo*, action of nitric acid on aliphatic compounds containing the group CH(OH). I. Action of nitric acid on secondary alcohols. II. Action of nitric acid on ketonic alcohols, R·CO·CH(OH)·R, A., i, 134.
—— oxidation of hydrazoximes, VI., A., i, 190.
—— reduction of the primary dinitrohydrocarbons with aluminum amalgam, A., i, 334.
Ponzio, *Giacomo*, and *V.* **Borelli**, transformation of ketones into α-diketones, VI., A., i, 659.
Pope, *William Jackson*, and *Allen* **Neville**, asymmetric optically active selenium compounds and the sexavalency of selenium and sulphur. *d*- and *l*-Phenylmethylselenetine salts, T., 1552; P., **1902**, 198.
Poppenberg, *Otto*, pyridazines, A., i, 60.
Porcher, *Ch.*, attempt to resolve monochlorosulphoacetic acid [into optical isomerides], A., i, 527.
Portes, *L.*, and *A.* **Desmoulière**, presence of salicylic acid in strawberries; errors of analysis which may result therefrom, A., ii, 40, 56.
—— —— testing albuminous urines, A., ii, 236.
Portes, *L.*, and *G.* **Prunier**, phosphomannitic acid and phosphomannitates, A., i, 526.
Portheim, *Leopold von*, necessity of lime for seedlings, especially at higher temperatures, A., ii, 626.
Portier, *P.*, and *Charles* **Richet**, physiological effects of the poison ("hypnotoxin") of the tentacles of Cœlenterata, A., ii, 343.
Posner, *E. R.*, and *William J.* **Gies**, are proteids, prepared in the usual way, combined with fat or fatty acid? A., i, 331.
—— —— possible combinations of fat and proteid, A., i, 652.
Posner, *Theodor*, condensation reactions of diketones, A., i, 82.
—— derivatives of benzoin containing sulphur, A., i, 220.
—— disulphones. VIII. Mercaptoles and sulphones from diketones, A., i, 220.
—— disulphones. IX. Derivatives of unsaturated ketones containing sulphur, A., i, 296.

Posner, *Theodor*, disulphones. XI. Influence of intranucleal substituents on the reactivity of aromatic aldehydes and ketones, A., i, 622.

Posniakoff, *A.*, double compounds of the oximes of tetrahydropyrone derivatives, A., i, 170.

Potter, *Charles Etty.* See *Hooper Albert Dickinson* **Jowett.**

Power, *Frederick Belding*, and *Frederic Herbert* **Lees,** the constituents of the essential oil of *Asarum canadense*, T., 59; P., **1901,** 210; discussion, P., 211.

—— —— the constituents of an essential oil of rue, T., 1585; P., **1902,** 192.

Power, *Frederick Belding*, and *Frank* **Shedden,** derivatives of gallic acid, T., 73; P., **1901,** 242.

Poynton, *F. J.*, and *Alexander* **Paine,** intravenous inoculation of a diplococcus isolated from cases of rheumatic fever, A., ii, 96.

Pozzi-Escot, *M. Emm*, an important source of error in the examination of diastases, A., i, 513.

—— catalytic properties of the hydrogenases; identification of Loew's "catalase" with de Rey-Pailhade's "philothion," A., i, 513.

—— hydrogenases: new case of diastatic hydrogenation, A., i, 580.

—— hydrogenases of the blood and the catalytic properties of fibrin, A., i, 654.

—— new diastases in urine, A., i, 655.

—— jacquemase, a new reducing diastase extracted from the Japanese koji, and secreted by "*Eurotium Oryzae*," A., i, 655.

—— microchemical test for magnesium, A., ii, 228, 428.

—— estimation of ethyl alcohol by Nicloux's method, A., ii, 233.

—— microchemical reactions of magnesium and characterisation of magnesium ammonium mellate, A., ii, 428.

—— microchemical detection of alkaloids, A., ii, 483, 710.

—— production of hydrogen sulphide in alcoholic fermentation, A., ii, 577.

—— qualitative reactions of reducing and oxidising diastases, A., ii, 635.

Pozzi-Escot, *M. Emm.* See also *Henri* **Alliot.**

Prager, *Bernh.*, fatty aromatic amino-azo-compounds, A., i, 64, 578.

Pratt, *Julius Howard*, talc and pyrophyllite deposits in North Carolina, A., ii, 407.

Prausnitz, *Wilhelm*, the nutritive value of meat and meat preparations in man, A., ii, 157.

Predari, *Hermann.* See *August* **Michaelis.**

Pregl, *Fritz*, acetylation of soluble starch, A., i, 135.

—— simple apparatus for drying under reduced pressure at high temperatures, A., ii, 202.

—— apparatus for extracting aqueous liquids by chloroform, A., ii, 202.

Preiss, *Louis E.*, detection of hydrogen cyanide in presence of thiocyanic, hydroferrocyanic, and hydroferricyanic acids, and their salts, A., ii, 706.

Preiswerk, *Ernst.* See *Fritz* **Fichter.**

Prentice, *David.* See *George Gerald* **Henderson.**

Preston, *H. L.*, Niagara meteorite, A., ii, 670.

Prettner, *August.* See *Alfred* **Einhorn.**

Preuner, *Gerhard.* See *Heinrich* **Biltz.**

Prianischnikoff, *Dimitry*, relative value of different phosphates, A., ii, 169.

Price, *Thomas Slater*, action of colloidal platinum on persulphuric acid and its salts, A., ii, 204.

Prior, *Eugen*, analysis and testing of kiln-dried malt, A., ii, 479.

Prior, *George Thurland*, identity of kilbrickenite with geocronite: analyses of miersite, marshite, and copper pyrites, A., ii, 404.

Prior, *George Thurland*, and *Leonard James* **Spencer,** the cerargyrite group (holohedral-cubic silver haloids), A., ii, 403.

Prior, *George Thurland.* See also *G. F. Herbert* **Smith.**

Pritchard, *G. B.*, a new zeolite (mooraboolite), A., ii, 612.

Proelss, *Hans*, detection of cocaine, A., ii, 295.

Pröscher, *Fr.*, synthesis of methylrubazonic acid, A., i, 505.

—— the poison of toads, A., ii, 278.

Prokopeczko, *A.* See *Ernst* **Bandrowski.**

Prosin, *M.* See *Alexander P.* **Sabanéeff.**

Prothière, *Eugène*, volumetric estimation of zinc; a new indicator, A., ii, 475.

Prunier, *G.* See *L.* **Portes.**

Prunier, [*L.*] *Léon* [*A.*], bismuth compounds derived from organic acids and employed in pharmacy, A., i, 76.

Prytz, *K.*, method of determining the freezing point of a solution at constant temperature, A., ii, 382.

Przibram, *Hans*, muscle-plasma in different classes of the animal kingdom, A., ii, 339.

Pschorr, *Robert*, and *Fritz* **Brüggemann**, derivatives of desylamine and of phenanthraquinone, A., i, 684.
Pschorr, *Robert*, [with *August* **Klein**, and *C.* **Seydel**], phenanthrene derivatives, A., i, 96.
Pschorr, *Robert*, and *J.* **Schröter**, 9-aminophenanthrene, A., i, 672.
—— —— 9-amino-10-hydroxyphenanthrene, morphigenin, and 9:10-diaminophenanthrene, A., i, 672.
Puckner, *William August*, estimation of chloroform, A., ii, 53.
Pulman, *O. S.* See *Frank Austin* **Gooch**.
Purgotti, *Attilio*, and *A.* **Contardi**, constitution of a new *o*-chlorodinitrobenzoic acid and of *o*-chloro-*m*-nitrobenzoic acid, A., i, 777.
—— —— derivatives of *o*-chloro-*m*-dinitrobenzoic acid, II., A., i, 778.
Purgotti, *Attilio*, and *G.* **Viganò**, *p*-diketohexahydrotetrazine and *p*-diketothiohexahydrotetrazine, II., A., i, 322.
Purjewicz, *K.*, respiration of plants, A., i, 345.
Pushin, *N. N.* See *Nicolai S.* **Kurnakoff**.

Q.

Quennessen. See *Emile Leidié*.
Quincke, *Georg Hermann*, clearing of turbid solutions, A., ii, 200.
Quint Gzn, *N.*, isotherms for mixtures of hydrogen chloride and ethane, A., ii, 60.

R.

Rabaut, *Charles*, some derivatives of the thiocresols, A., i, 673.
Rabe, *Paul*, and *Fritz* **Elze**, δ-(1:5-)-diketones, A., i, 709.
Rabe, *Paul*. See also *Ludwig* **Knorr**.
Rabe, *W. O.*, solubility of analogous salts, A., ii, 491.
Rabinovitsch, *A. M.*, commercial "benzine," A., i, 333.
Raciborski, *M.*, chemical reaction on the surface of roots, A., ii, 419.
Racine, *R.*, analyses of honey, A., ii, 704.
Racovitza, *N. A.* See *Fritz* **Ullmann**.
Raczkowski, *Sig. de*. See *Fréd.* **Bordas**.
Radzikowski, *C.* See *Alex.* **Herzen**.
Raetze, *W.* See *Reinhold von* **Walther**.
Rahn, *Otto*. See *Otto* **Wallach**.
Raikow, *Paul N.*, formaldehyde, A., i, 344.
—— flashing points of monohydric fatty alcohols and their aqueous solutions, A., i, 583.
—— the chemistry of Halphen's reaction for cotton seed oil, A., ii, 366.
Raikow, *Paul N.*, and *J.* **Raschtanow**, action of solid alkalis on aromatic aldehydes, A., i, 721.
Raikow, *Paul N.*, and *P.* **Schtarbanow**, compounds of aromatic aldehydes and the esters of aromatic acids with orthophosphoric acid and its alkyl esters, A., i, 228.
Rakowsky, *E.* See *Alexander P.* **Sabanéeff**.
Ramage, *Hugh*, volumetric estimation of manganese, A., ii, 50, 108.
—— comparative study of the spectra, densities, and melting points of some groups of elements and of the relation of properties to atomic mass, A., ii, 545.
—— spectra of potassium, rubidium, and cæsium, and their mutual relations, A., ii, 637.
Ramage, *Hugh*. See also *Walter Noel* **Hartley**.
Rammelberg, *Kurt*, composition of orchid tubers at different periods, A., ii, 420.
Ramorino, *Karl*, estimation of silicon in high-grade ferrosilicons, by means of sodium dioxide, A., ii, 355.
—— rapid estimation of phosphorus, A., ii, 473.
Rampacher, *Eberhard*. See *Conrad* **Willgerodt**.
Ramsay, *Sir William*, and *Ida* **Homfray**, colorimetric method for estimating oxygen dissolved in water, A., ii, 171.
Ramsden, *William*, new properties of urea, A., i, 596.
Randall, *William B.*, obituary notice of, T., 629.
Ransom, *James H.* See *Felix* **Lengfeld**.
Ranwez, *Fernand*, detection of sesamé oil, A., ii, 114.
Raoult, *François Marie*, memorial lecture on, (VAN'T HOFF), T., 969; P., **1902**, 81.
Rapp, *Rudolf*. See *Robert* **Albert**.
Raschtanow, *J.* See *Paul N.* **Raikow**.
Rassow, *Berthold*, and *Kurt* **Rülke**, action of hydrazobenzene and its substitution derivatives on aldehydes, A., i, 404.
Raudnitz, *Robert W.*, superoxydases, A., i, 252.
Råy, *Prafulla Chandra*, dimercurammonium nitrite and its haloid derivatives, T., 644; P., **1901**, 96; **1902**, 85.
Rayleigh, *Lord* [*John William* **Strutt**, *Baron Rayleigh*], the question of hydrogen in the atmosphere, A., ii, 391.
Reach, *Felix*, absorption of carbohydrates by the rectum, A., ii, 413.

Reale, *Enrico*, estimation of small quantities of dextrose in urines and in organic liquids in general, A., ii, 234.

Recoura, *Albert*, action of hydrochloric acid on the sulphates of aluminium, chromium, and iron, A., ii, 563.

Reeb, *E.* See *Charles Frédéric* **Schlagdenhauffen**.

Reed, *Jewett V.* See *J. H.* **Kastle**.

Reformatsky, *Sergius N.*, *s-aa*-diethylglutaric acid and its preparation from the corresponding *β*-hydroxy-acid, A., i, 588.

Reformatsky, *Sergius N.*, and *N.* **Lukaschewitsch**, action of zinc on a mixture of ethyl acetoacetate with methyl or ethyl iodide, A., i, 10.

Reichard, *C.*, detection of chromic acid by hydrogen peroxide in presence of vanadic acid, A., ii, 51.

—— estimation of potassium by picric acid, A., ii, 175.

Reichardt, *G.*, electrical properties of alloys of copper and cobalt, A., ii, 118.

Reich-Herzberge, *Friedrich*, action of trypsin on gelatin, A., i, 252.

Reid, *Edward Waymouth*, intestinal absorption, A., ii, 412.

Reimer. See **Haarmann**.

Reinbach, *H.* See *Max* **Conrad**, and *Theodor* **Zincke**.

Reinbold, *B.*, estimation of carbohydrates in normal urine by the Schotten-Baumann method of benzoylation, A., ii, 633.

Reinders, *W.*, galvanic cells and the phase rule, A., ii, 639.

Reindl, *Ludwig*. See *Julius* **Tafel**.

Reinhardt, *Fr.* See *Josef* **König**.

Reinhardt, *Gustav*, estimation of raffinose, A., ii, 362.

Reinsch, *A.*, is the sesamé reaction of a butter a sufficient proof of adulteration? A., ii, 114.

Reiser, *Otto*. See *Oskar* **Emmerling**.

Reiss, *W.*, and *A.* **Stübel**, [analyses of garnet and gold], A., ii, 91.

Reitlinger, *A.*, estimation of sulphur in coal and pyrites, A., ii, 692.

Rekner, *K.* See *Alfred* **Werner**.

Remy, *Theodor*, manurial experiments with hops, A., ii, 349.

—— bacteriology of soil, A., ii, 682.

Remy, *Theodor*, and *O.* **Englisch**, nutrition and physiological studies on hops, A., ii, 168.

Remy, *Theodor*, and *O.* **Neumann**, manurial experiments with potassium and phosphoric acid on barley, A., ii, 524.

Renz, *Carl*, compound of thallium chloride with organic bases, A., i, 393.

Renz, *Carl*, compounds of silver chloride with organic bases, A., i, 563.

—— [double salts of thallium and alkaloids with hydracids], A., i, 822.

Report of the American Committee, on atomic weights, A., ii, 389.

Report of the American Sub-Committee, on uniformity in analysis of materials for the Portland cement industry, A., ii, 227.

Report of the Conjoint Committee of the Society of Chemical Industry and the Society of Public Analysts, detection and approximate estimation of minute quantities of arsenic in beer, brewing materials, foodstuffs, and fuel, A., ii, 288.

Report, (third), of the Committee of the German Chemical Society, on atomic weights, A., ii, 129.

Report of the Lawes Trust Committee, on the amounts of nitrogen, as ammonia and as nitric acid, and of chlorine in the rain-water collected at Rothamsted, P., **1902**, 88.

Report of the Lawes Trust Committee, on the amounts of nitrogen, as nitrates, and chlorine in the drainage through uncropped and unmanured land, P., **1902**, 89.

Rettger, *Leo F.*, the liberation of volatile sulphide from milk on heating, A., ii, 218.

—— relation between spleen and pancreas, A., ii, 275.

—— the film on heated milk, A., ii, 519.

Rettger, *Leo F.* See also *Lafayette B.* **Mendel**.

Reuter, *Max*. See *O.* **Petriccioli**.

Reverdin, *Frédéric*, and *Pierre* **Crépieux**, derivatives of toluene-*p*-sulphonic chloride and *o*-nitrotoluene-*p*-sulphonic chloride, A., i, 238.

—— —— preparation and nitration of derivatives of toluene-*p*-sulphonic chloride, A., i, 434.

Reychler, *Albert*, some salts of antipyrine, A., i, 646.

—— some derivatives of *β*-naphthylamine, A., i, 757.

Reynolds, *James Emerson*, presidential address, T., 609; P., **1902**, 77.

—— the relations of the elements, T., 612.

Reynolds, *James Emerson*, and *Emil Alphonse* **Werner**, the "dynamic isomerism" of thiourea and ammonium thiocyanate, P., **1902**, 207.

Rhodius, *Otto*. See *Ferdinand* **Henrich**.

Rhorer, *Ladislaus von*, the properties of proteids of combining with acids, A., i, 651.

Richard, *A.*, electrolytic production of haloid derivatives of acetone, A., i, 133.

Richard, *E.*, preparation of iodine substitution derivatives of phenols, A., i, 280.

—— volumetric estimation of soluble iodides, A., ii, 691.

Richards, *A. N.*, and *William J.* **Gies**, elastin, mucoid, and other substances in elastic tissue, A., i, 410.

Richards, *Percy Andrew Ellis*, estimation of platinum, gold, and silver in alloys, A., ii, 701.

Richards, *Theodore William*, the standard for atomic weights, A., ii, 65.

—— modification of Hempel's gas analysis apparatus, A., ii, 286.

—— possible significance of changing atomic volume, A., ii, 305.

—— redetermination of the atomic weight of calcium, A., ii, 394.

—— significance of changes of atomic volume. II. Probable source of heat of chemical combination and a new atomic hypothesis, A., ii, 444.

—— application of the phase rule to the fusing points of copper, silver, and gold, A., ii, 455.

Richards, *Theodore William*, and *Ebenezer Henry* **Archibald**, decomposition of mercurous chloride by dissolved chlorides; a contribution to our knowledge of concentrated solutions, A., ii, 384.

Richards, *Theodore William*, and *George W.* **Heimrod**, accuracy of the improved voltameter, A., ii, 592.

Richards, *Theodore William*, and *Benjamin S.* **Merigold**, atomic weight of uranium, A., ii, 506.

Richards, *Theodore William*, and *Sidney K.* **Singer**, quantitative separation of hydrochloric and hydrocyanic acids, A., ii, 434.

[**Richardson**, *Clifford*, *Spencer B.* **Newberry**, and *H. A.* **Schaffer**], report of the American Sub-Committee on uniformity in analysis of materials for the Portland cement industry, A., ii, 227.

Richardson, *Clifford*, and *Edwin C.* **Wallace**, occurrence of free sulphur in Beaumont petroleum, A., ii, 327.

Richardson, *Frederic W.*, methods for arsenic estimation in malt liquors, &c., A., ii, 628.

Richardson, *Owen Willans*. See *Humphrey Owen* **Jones**.

Richet, *Charles*. See *P.* **Portier**.

Richmond, *Henry Droop*, composition of milk, A., ii, 182, 677.

Richmond, *Henry Droop*, and *John Bristowe Pease* **Harrison**, rapid estimation of boric acid in butter, A., ii, 530.

Richter, *Andreas*, critical observations on the theory of fermentation, I., A., ii, 681.

Richter, *E.*, Jolles' method of estimating uric acid in urine, A., ii, 632.

Richter, *L.* See *Friedrich* **Nobbe**.

Richter, *W.*, halogen derivatives of phenols, A., i, 163.

Rickards, *B. R.* See *James F.* **Norris**.

Ridder, *Gustave de*, estimation of organic matters in drinking water, A., ii, 178.

Ridenour, *W. E.*, estimation of hydroxide in the presence of alkaline carbonate, A., ii, 49.

Riecke, *R.* See *Theodor* **Pfeiffer**.

Riedel, *Fr.*, theory of the lead chamber process, A., ii, 450, 651.

Riedel, *J. D.*, di-*p*-phenetidide of agaric acid, A., i, 705.

Rieger, *Fritz*, estimation of phosphoric acid in organic substances, A., ii, 225.

Riegler, *Em.*, simple gasometric method of estimating chlorine, hydrochloric acid, silver, and phosphates, A., ii, 104.

—— gasometric estimation of sulphates and carbonates, A., ii, 223.

—— delicate reaction for dextrose and other aldehydes, A., ii, 585.

—— a gasometric method for alkalimetry A., ii, 696.

Ries, *A.*, crystalline forms of platinichlorides of the aliphatic amines, A., i, 747.

Riesenfeld, *E. H.*, transport number of some salts in phenol, A., ii, 594.

—— concentration elements with immiscible solvents, A., ii, 594.

—— molecular condition of potassium iodide [dissolved] in phenol, A., ii, 598.

Riesenfeld, *E. H.* See also *Walther* **Nernst**.

Riesenfeld, *H.* See *Richard* **Abegg**.

Rigaud, *Moritz*. See *Otto* **Fischer**.

Riiber, *C. N.*, synthesis of α-truxillic acid, A., i, 617.

—— direct conversion of cinnamic acid into α-truxillic acid, A., i, 785.

Riiber, *C. N.* See also *Carl* **Liebermann**.

Rimatori, *Carlo*, analysis of manganese [minerals] from Sardinia, A., ii, 146.

—— prehnite and other zeolites in the granulites of Cala Francese [in the Island of Maddalena (Sardinia)], A., ii, 668.

Rimbach, *Charles*. See *E.* **Kröber**.

Rimbach, *Eberhard*, solubility and dissociation of double salts in water, A., ii, 306.

Rindell, *Arthur*, solubility of calcium hydrogen phosphate in water, A., ii, 208.
Ringer, *Wilhelm Eduard*, mixed crystals of sulphur and selenium, A., ii, 651.
Rinne, *Friedrich*, koenenite, A., ii, 611.
—— arsensulfurite, A., ii, 611.
Rising, *Adolf.* See *Eugen* **Bamberger.**
Ritchey, *J. C.* See *J. H.* **James.**
Ritter, *Adolf.* See *Ernst* **Weinland.**
Ritter, *E.*, sitosterol, A., i, 446.
—— quantitative separation of cholesterols from fats, A., ii, 111.
Robertson, *P. W.*, atomic and molecular heats of fusion, T., 1233; P., **1902,** 131.
Robertson, *William*, the action of nitric acid on bromophenolic compounds, T., 1475; P., **1902,** 189; discussion, P., 190.
Robson, *W. G.* See *Johan Pieter* **Kuenen.**
Roche, *D. A.*, detection and estimation of oxalic acid in hydrogen peroxide, A., ii, 181.
Rocherolles, *J.* See *Eugène* **Charabot.**
Rockwell, *George W.*, electrolytic study of pyruvic acid, A., i, 740.
Rocques, *Xavier*, and *G.* **Sellier,** estimation of volatile acidity of wines, A., ii, 111.
Rodier, *M. E.*, coagulation of the blood of fishes, A., ii, 215.
Roeder, *Georg.* See *Emil* **Fischer.**
Röhmer, *Alfred.* See *Franz* **Sachs.**
Römer, *H.* See *H.* **Wilfarth.**
Roeser, *P.*, estimation of essence of mustard, A., ii, 483.
Rössing, *Adelbert*, solubility of copper sulphide in alkali sulphides: separation of copper, lead, antimony, and tin, A., ii, 230.
Rössler, *Karl*, scatole-red and similar colouring matters of urine, A., i, 49.
Rogers, *Austin F.*, [allophane? from Kansas], A., ii, 463.
Rogoff, *M.*, dialdehydes resulting from aldehydes and aromatic hydroxyaldehydes. I. Action of benzaldehyde on vanillin, A., i, 103.
—— action of *p*- and *m*-nitrobenzaldehyde on vanillin, A., i, 547.
Rohland, *Paul*, chromic chloride, A., ii, 144.
—— plasticity of clay, A., ii, 497.
—— cause of the influence of positive and negative catalysers on the velocity of hydration in some inorganic reactions, A., ii, 601.
Rojahn, *Wilhelm.* See *Hugo von* **Soden.**
Romburgh, *Pieter van*, action of nitric acid on alkylated amines of *p*-toluenesulphonic acid, A., i, 601.
—— some further constituents of the essential oil of *Kaempferia Galanga*, A., i, 633.
Rona, *Peter.* See *Wolfgang* **Pauli.**
Roozeboom, *Hendrik Willem Bakhuis*, new method of representing heats of solution, A., ii, 61.
—— melting of binary solid mixtures by cooling, A., ii, 490.
Roques, *Ferdinand*, and *Auguste* **Erngross,** preparation of periodates, A., ii, 649.
Roschdestwensky, *Michael.* See *Nicolai D.* **Zelinsky.**
Rose, *J. A.* See *Alfred* **Partheil.**
Rosemann, *Rudolf*, action of alcohol as a "proteid sparer," A., ii, 274.
Rosenberg, *Siegfried*, bile and digestion of proteids, A., ii, 216.
Rosenfeld-Freiberg, *M.*, velocity of formation of simple ethers, A., ii, 492.
Rosenheim, *Arthur*, precipitation of ammonium vanadate by ammonium chloride, A., ii, 700.
Rosenheim, *Arthur*, and *Robert* **Cohn,** the red alkali chromo-oxalates, A., i, 74.
—— —— thiocyanates of quadrivalent titanium, A., ii, 26.
Rosenheim, *Arthur*, and *Ernst* **Huldschinsky,** method of quantitatively separating nickel and zinc, A., ii, 108.
—— —— quantitative separation of zinc and cobalt, A., ii, 697.
Rosenheim, *Arthur*, and *Willy* **Loewenstamm,** compounds of antimony pentachloride with organic acids, A., i, 358.
Rosenheim, *Arthur*, and *Kurt* **Oppenheim,** alkali double nitrites of mercury and zinc, A., ii, 20.
Rosenheim, *Arthur*, and *Wilhelm* **Stellmann,** pentahalogen compounds of antimony and their double compounds, A., i, 68.
Rosenheim, *Otto*, the decomposition of compounds of selenium and tellurium by moulds and its influence on the biological test for arsenic, P., **1902,** 138.
Rosenheim, *Otto.* See also *Francis Whittaker* **Tunnicliffe.**
Rosenstiehl, *Auguste*, action of tannins and colouring matters on the activity of yeasts, A., ii, 219.
Rosenstiehl, *Auguste*, and *E.* **Suais,** action of sulphides, sulphites, and hyposulphites on nitrated azo-colouring matters, A., i, 406.

Rosenstiehl, *Auguste*, and *E.* **Suais**, reduction of *o*-nitroazo-colouring matters; production of derivatives of 2-phenyl-ψ-aziminobenzene, A., i, 406.

Rosenthaler, *L.*, phytochemical examination of *Verbascum sinuatum* (used to poison fish) and some other Scrophulariaceæ, A., ii, 282.

Rosinger, *Hugo*, formation of αγ-decyl glycol from isovaleraldehyde, A., i, 526.

Rossel, *Otto*, detection of the colouring matters of the blood in urine, A., ii, 296.

Rossi, *Carlo*, saturated solutions of salts of analogous series, A., ii, 198.

Rost, *E.*, influence of sodium nitrate on metabolism in dogs, A., ii, 33.

—— physiological action of borax and boric acid; its use as a preservative of foods, A., ii, 620.

Rostovzeff, *Serge.* See *Carl* **Graebe**.

Roth, *Karl.* See *Georg W. A.* **Kahlbaum**.

Rothberger, *Julius C.*, antagonism of curare and physostigmine, A., ii, 38.

Rothenfusser, *S.* See *Albert* **Hilger**.

Rothmund, *Victor*, formation of calcium carbide, A., ii, 454.

Rothmund, *Victor*, and *N. T. M.* **Wilsmore**, reciprocal nature of solubility influences, A., ii, 447.

Rotter, *Adolf.* See *August* **Michaelis**.

Roux, *E.*, derivatives of glucosamine, A., i, 266.

Roux, *E.* See also *Léon* **Maquenne**.

Rowe, *Allan W.* See *Augustus H.* **Gill**.

Rozenband, *Melanie.* See *Fritz* **Ullmann**.

Różycki, *Antoni.* See *Stanislaus von* **Kostanecki**.

Rubenbauer, *Jacob*, solubility of hydroxides of the heavy metals in sodium hydroxide, A., ii, 396.

Rubner, *Max*, energy value of diet in man, A., ii, 153.

—— physiological action of borax and boric acid; its use as a preservative of foods, A., ii, 620.

Rudisch, *Julius*, and *Leopold* **Boroschek**, estimation of uric acid in urine, A., ii, 541.

Rudolf, *Leo.* See *Eugen* **Bamberger**.

Rudolph, *P.* See *Wilhelm* **Autenrieth**.

Rudolphi, *Max*, Prout's hypothesis and the tendency of atomic weights to approach whole numbers, A., ii, 201.

Rudzick, *H.*, bromoallylamine, A., i, 24.

Rübel, *Ed. A.* See *Robert* **Gnehm**.

Rülke, *Kurt.* See *Berthold* **Rassow**.

Rüst, *Ernst.* See *Eugen* **Bamberger**.

Ruff, *Otto*, catalytic reactions. II. Decomposition of chlorosulphonic acid into sulphuryl chloride and sulphuric acid, A., ii, 13.

—— ferric oxide and hydroxides, A., ii, 22.

Ruff, *Otto*, and *Arthur* **Franz**, a chlorogalactonic (chlorotetrahydroxyhexoic) acid, A., i, 259.

Ruff, *Otto*, [with *Hugo* **Kohn**, *Adolf* **Meusser**, and *Arthur* **Franz**], the degradation of rhamnonic and isosaccharic acids, A., i, 590.

Ruff, *Otto.* See also *Alfred* **Wohl**.

Ruggeri, *R.* See *Massimo* **Tortelli**.

Ruhemann, *I.*, direct titration of uric acid in urine, A., ii, 435.

Ruhemann, *Siegfried*, condensation of phenols with esters of unsaturated acids. Part VII., T., 419; P., **1902**, 45.

—— the action of ethyl chlorofumarate on monoalkylmalonic esters, T., 1212; P., **1902**, 181.

—— ethyl dihydroxycinchomeronate, A., i, 178.

Ruhemann, *Siegfried*, and *Henry Ernest* **Stapleton**, tetrazoline. Part II., T., 261; P., **1902**, 30.

Ruijter de Wildt, *Johannes Catharinus de.* See *Stanislaus von* **Kostanecki**.

Ruini, *Guglielmo*, clinical detection and estimation of dextrose in urine by means of *o*-nitrophenylpropiolic acid, A., ii, 233.

Rulot, *Hector*, and *Léon* **Cuvelier**, influence of occlusion of the descending aorta on the respiratory exchanges, A., ii, 149.

—— —— carbon dioxide as an excitant of the respiratory centre, A., ii, 150.

Rumpf, *K.* See *Julius von* **Braun**.

Rung, *F.* See *Arthur* **Binz**.

Rupe, *Hans*, *A.* **Braun**, and *Kasimir von* **Zembruski**, derivatives of acetophenone, A., i, 40.

Rupe, *Hans*, and *D.* **Wasserzug**, chromophore groups, A., i, 40.

Rupp, *Erwin*, and *Ludwig* **Krauss**, volumetric estimation of mercury and also of silver and mercury, A., ii, 475.

Rupp, *Erwin*, and *Albert* **Schiedt**, iodometry of ferro- and ferri-cyanides, A., ii, 535.

—— —— iodometry of thiocyanic acid, A., ii, 538.

Rupp, *Erwin*, and **Spiess**, iodometric estimation of gold, A., ii, 479.

Russ, *Franz*, niobioxalic acid, A., i, 586.

Russell, *Edward John*, and *Norman* **Smith**, non-existence of the gaseous sulphide of carbon described by Deninger, T., 1538; P., **1902**, 197.

Russell, *Edward John*. See also *Alfred Daniel* **Hall**, and *Joseph William* **Mellor**.

Rutherford, *E.*, and (*Miss*) *H. T.* **Brooks**, the new gas from radium, A., ii, 438.

—— —— comparison of the radiations from radioactive substances, A., ii, 590.

Rutherford, *E.*, and *A. G.* **Grier**, deviable rays of radioactive substances, A., ii, 637.

Rutherford, *E.*, and *Frederick* **Soddy**, the radioactivity of thorium compounds. I. An investigation of the radioactive emanation, T., 321; P., **1902**, 2; discussion, P., 5.

—— —— the radioactivity of thorium compounds. II. The cause and nature of radioactivity, T., 837; P., **1902**, 120.

—— —— on the condensation points of the thorium and radium emanations, P., **1902**, 219.

Rutten, *Gerardus Marie*, the system bismuth oxide, nitric acid, and water, A., ii, 386.

Ružička, *Stanislav*, action of water on lead, A., ii, 77.

Ryffel, *John Henry*. See *Henry John Horstman* **Fenton**.

S.

Saager, *Adolf*. See *Friedrich* **Kehrmann**.

Sabanéeff, *Alexander P.*, *E.* **Rakowsky**, and *M.* **Prosin**, cyclic isonitriles and their derivatives, II., III., and IV., A., i, 604.

Sabat, *Br.*, conductivity of mixtures of electrolytes, A., ii, 591.

Sabatier, *Paul*, and *Jean Baptiste* **Senderens**, new synthesis of methane, A., i, 333.

—— —— hydrogenation of ethylenic hydrocarbons by the method of contact, A., i, 525.

—— —— synthesis of various petroleums; theory of the formation of natural petroleums, A., i, 581.

—— —— direct hydrogenation of acetylenic hydrocarbons by contact action, A., i, 701.

—— —— reduction of nitro-compounds by direct hydrogenation in contact with finely-divided metals, A., i, 701.

Sabatier, *Paul*, and *Jean Baptiste* **Senderens**, direct hydrogenation of the oxides of carbon in the presence of various finely-divided metals, A., ii, 317.

—— —— direct hydrogenation of nitrogen oxides by contact action, A., ii, 605.

Sabeck *Alexander*, rational analysis of clays, A., ii, 429.

Sabrazès, *J.*, and *L.* **Muratet**, the blood of the Hippocampus, A., ii, 215.

Sacher, *Julius Friedrich*, the decomposition-tension of molten sodium hydroxide and of lead chloride, A., ii, 120.

Sachs, *A.*, anapaite, a new mineral, A., ii, 268.

Sachs, *Franz*, condensation-products from aromatic nitroso-compounds and methylene derivates, A., i, 118.

—— condensation products from aromatic *p*-nitrosoamines and toluene or xylene compounds, A., i, 119.

Sachs, *Franz*, and *Hermann* **Barschall**, ketopyrazolone, I., A., i, 503.

Sachs, *Franz*, and *Max* **Goldmann**, substituted aminobenzyl cyanides and iminobenzoyl cyanides, A., i, 780.

Sachs, *Franz*, and *R.* **Kempf**, 2:4-dinitrobenzaldehyde, II., A., i, 682.

Sachs, *Franz*, and *R.* **Kempf**, [with *Hermann* **Barschall** and *W.* **Everding**], new method of preparation of nitrobenzaldehydes, A., i, 377.

Sachs, *Franz*, and *Alfred* **Röhmer**, triketones. II. $\beta\gamma\delta$-Triketo-δ-phenylbutane, A., i, 837.

Sachs, *Franz*, and *Croyden Meredith* **Whittaker**, conversion of hydrazobenzene into benzidine by glacial acetic acid, A., i, 510.

Sachs, *Hans*, the poison of the garden spider (*Epiria diadema*), A., ii, 342.

Sack, *M.* See *Fritz* **Haber**.

Sackur, *Otto*, basic properties of quadrivalent oxygen, A., i, 384.

—— influence of the addition of a salt with one similar ion on the E.M.F. of electrolytic cells, A., ii, 121.

—— action of carbon dioxide and alkali salts on metallic oxides, &c., A., ii, 204.

—— physical chemistry of sulphuric acid, A., ii, 252.

Sackur, *Otto*. See also *Guido* **Bodländer**.

Sage, *C. Edward*, chemistry of *Solanum chenopodinum*, A., ii, 282.

Saget, *G.*, action of potassium ferricyanide and soluble chlorates on chromium salts, A., ii, 210.

Saiki, *T.*, and *G.* **Wakayama**, the influence of carbon monoxide on the amount of carbon dioxide in arterial blood, A., ii, 161.
Sakowitsch, *J.* See *Franz* **Feist**.
Salant, *William.* See *Frederic S.* **Lee**.
Salaskin, *Sergei*, the presence of erepsin in the intestinal juice of dogs, A., ii, 571.
Salaskin, *Sergei.* See also *W.* **Horodyński**, and *Katharina* **Kowalewski**.
Salkowski, *Ernst* [*Leopold*], the present condition of the chemistry of albumin, A., i, 128.
—— preparation of xylan, A., i, 206.
—— behaviour of araban with Fehling's solution, A., i, 593.
—— yeast trypsin, A., ii, 165.
—— trypsin, A., ii, 616.
—— fate of uric acid introduced into the stomach, A., ii, 616.
Salkowski, *Heinrich* [*Hermann*], usnic acid: rotatory power of other lichen derivatives, A., i, 228.
Salle, *E.*, kaolin from near Spezia, Italy, A., ii, 409.
Sallerin, *Ch.*, estimation of urea in urine, A., ii, 541.
Salmoni, *L.* See *Antonio* **Piccinini**.
Salzberger, *N.* See *Johannes* **Thiele**.
Sammet, *G. V.* See *Albert Amos* **Noyes**.
Samoiloff, *J.*, hydrogöthite, a definite hydrated iron oxide, A., ii, 88.
Samuely, *Franz*, melanins which originate from proteid, A., i, 731.
Sand, *Julius*, and *Fritz* **Singer**, mercuric compounds from terpineol and dimethylheptenol, A., i, 851.
Sandman, *O.*, new reactions of calcium carbide and acetylene, A., i, 581.
Sandoz. See **Chemische Fabrik vorm. Sandoz.**
Saposchnikoff, *A. V.*, chemical equilibrium in the reduction of nitric acid by means of nitric oxide, A., ii, 16.
Sarcoli, *L.* See *C.* **Ulpiani**.
Sarfert, *O.* See *Franz* **Kunckell**.
Sarosek, *F.*, composition of the tanning material "taran," A., i, 816.
Sartori, *A.*, detection of artificial sweetening materials in beer, A., ii, 187.
Satie, *C.* See *Paul* **Jeancard**.
Saux, *G.* See *E.* **Cassart**.
Sawamura, *S.*, digestive enzymes of some Lepidoptera, A., ii, 673.
Schaefer, *Konrad.* See *Heinrich* **Ley**.
Schaer, *Eduard*, guaiacum blue and aloin red, A., i, 168.
—— the oxidising action of copper salts, A., ii, 140.
Schaer, *Eduard*, intensifying ("activirende") action of reducing agents, colloidal noble metals, alkaloids, and other basic substances on oxidising agents, A., ii, 603.
Schaeuble, *Alfred.* See *August* **Michaelis**.
Schaffer, *H. A.* See *Clifford* **Richardson**.
Schall, [*Joh. Friedrich*] *Carl*, [brazilin and brazilein], A., i, 636.
Schaller, *Robert*, relations of absorption to analytical and agricultural chemistry, A., ii, 226.
Schaller, *W. T.* See *Arthur S.* **Eakle**.
Schander, *Alfred.* See *Martin* **Freund**.
Schardinger, *Franz*, products of the fermentation of sucrose by a mucus-forming bacillus, and the composition of a carbohydrate isolated from the mucus, A., ii, 469.
Scharizer, *Rudolf*, acid ferric sulphate, A., ii, 143.
Scharwin, *W.*, ketones and oximes containing a tetrahydronaphthalene nucleus, A., i, 625.
Schattenfroh, *Arthur*, butyric fermentation; occurrence and biological relations of the mobile butyric bacillus, A., ii, 467.
Schenck, *Rudolph*, red phosphorus, A., ii, 205.
Schering, *E.* See **Chemische Fabrik auf Aktien**.
Scherpenzeel, *Lodewyk van*, [oxidation of mesityl methyl ketone and ψ-cumyl methyl ketone], A., i, 103.
Scherrer, *Adolf.* See *Alfred* **Werner**.
Scheunert, *Arthur.* See *Otto* **Wallach**.
Schiavon, *Guido.* See *Pietro* **Spica**.
Schidrowitz, *Philip*, mannitic fermentation of wine, A., ii, 291.
—— note on Reichard's "silver" method for the estimation of morphine in opium, A., ii, 483.
Schiedt, *Albert.* See *Erwin* **Rupp**.
Schieffelin, *Wm. Jay*, and *William R.* **Lamar**, estimation of lithia in lepidolite, A., ii, 428.
Schiff, *F.* See *Oscar* **Bernheimer**.
Schiff, *Hans.* See *Alfred* **Wohl**.
Schiff, *Hugo*, discrimination between basic and acidic functions in solutions of amino-acids by means of formaldehyde, A., i, 85.
—— discrimination between basic and acidic functions in proteid solutions, A., i, 250.
—— reactions of amidoximes, A., i, 429.
Schifferes, *Markus.* See *Paul* **Cohn**.
Schild, *Leo.* See *Friedrich* **Kehrmann**.
Schill, *Emil.* See *Otto* **Diels**.

Schilling, *Rudolf von.* See *Daniel* **Vorländer**.
Schimmel & Co., methyl methylanthranilate, A., i, 96.
—— [heptaldehyde and its homologues], A., i, 344.
—— ethereal oils, A., i, 550.
Schindelmeiser, *Iwan*, constituents of galanga oil, A., i, 551.
—— detection of nicotine by means of formaldehyde, A., ii, 115.
—— the behaviour of selenious acid in the Marsh apparatus, A., ii, 693.
Schittenhelm, *Alfred*, the relation of adenine and guanine in the organism, A., ii, 617.
Schittenhelm, *Alfred.* See also *Martin* **Krüger**.
Schlagdenhauffen, *Charles Frédéric*, and *E.* **Reeb**, presence of lecithin in vegetables, A., ii, 625.
Schlagdenhauffen, *Charles Frédéric.* See also *Edouard* **Heckel**.
Schlegelmilch, *Fr.* See *Rudolph F.* **Weinland**.
Schliom, *S.*, formation of quaternary aromatic bases, A., i, 444.
Schlœsing, [*Jean Jacques*] *Théophile*, vegetable soils, A., ii, 422.
Schlœsing, *Théophile, jun.*, nutrition of plants with phosphorus, A., ii, 220.
—— soil phosphates soluble in water, A., ii, 626.
Schlotterbeck, *Fritz.* See *Carl* **Bülow**.
Schlotterbeck, *Julius O.*, chelidoxanthin is impure berberine, A., i, 231.
—— does *Argemone mexicana* contain morphine? A., ii, 101.
Schlotterbeck, *Julius O.*, and *H. C.* **Watkins**, chemistry of *Stylophorum diphyllum*, A., ii, 100.
Schlundt, *Herman*, dielectric constants of pure solvents, A., ii, 2.
—— relative velocities of the ions in solutions of silver nitrate in pyridine and acetonitrile, A., ii, 492.
Schmatolla, *Otto*, volumetric estimation of iron, A., ii, 108.
—— preparation of N/100 potassium hydroxide and N/2 alcoholic potassium hydroxide, A., ii, 352.
—— formation of hydrates in aqueous solutions, A., ii, 645.
Schmelck, *Ludwig*, putrefaction of corpses, A., ii, 279.
Schmid, *B.*, action of chloroform on resting seeds, A., ii, 683.
Schmid, *Julius.* See *Martin* **Krüger**.
Schmid, *Theodor*, cinchotinesulphonic acid, A., i, 53.
Schmidt, *C. H. L*, estimation of iodic and hydriodic acids formed in the iodination of proteids, A., i, 251.
—— formation of iodic acid in the iodination of crystallised egg-albumin, A., i, 251.
—— action of iodine on proteids, I., A., i, 732.
—— detection and decomposition of iodoform, A., ii, 109.
—— detection of iodoform in the presence of some organic iodine compounds, A., ii, 110.
—— [determination of iodine in solutions containing iodine and hydriodic acid], A., ii, 627.
Schmidt, *Carl*, scheelite from Maderanerthal, Switzerland, A., ii, 511.
Schmidt, *Ernst* [*Albert*], [with **Adlung**], citrapten, A., i, 45.
—— methylenedipiperidine, A., i, 487.
—— nitro- and amino-stilbazoles, A., i, 826.
[**Schmidt**, *Ernst*, and] *Franz M.* **Litterscheid**, action of acetyl chloride, benzoyl chloride, and ethylidenelactic acid on pyridinecholine, A., i, 308.
Schmidt, *Gerhard Carl*, chemical action of the cathode rays, A., ii, 237.
Schmidt, *Josef*, calculation of atomic weights, A., ii, 497.
Schmidt, *Julius*, action of nitrogen trioxide and peroxide on stilbene, II., A., i, 21.
—— 3-nitro- and 3-amino-phenanthrene, A., i, 29.
—— 2:3:5:6-tetraphenyl-*s*-piperazine, A., i, 500.
—— polymerism and desmotropism of trimethylethylene nitrosite, A., i, 581.
—— polymerism of trimethylethylene nitrosate, A., i, 582.
—— nitrodihydrophenanthrene, A., i, 715.
Schmidt, *Julius*, [and, in part, with *Adolf* **Kämpf**], preparation of aminohydroxyphenanthrenes, A., i, 757.
—— —— nitro-derivatives of phenanthraquinone and of phenanthraquinol, A., i, 797.
Schmidt, *K. F. M. Julius*, the methylated pyrimidines, A., i, 499.
Schmidt, *Oscar.* See *Carl* **Haeussermann**, and *Edgar* **Wedekind**.
Schmitz, *Karl.* See *Julius* **Tafel**.
Schmitz, *Leonhard.* See *Georg* **Schroeter**.
Schneemann, *Felix.* See *August* **Michaelis**.
Schneider, *C.* See *B.* **Moritz**.
Schneider, *Hugo.* See *Otto von* **Fürth**.

Schneidewind, *W.* See *W.* **Krüger**, and *Max* **Maercker**.
Schnitzspahn, *Karl*, *s*-di-*o*-nitrodiphenylmethane, A., i, 436.
Schoellkopf, Hartford & Hanna Co., *m*-aminotolyloxaminosulphonic acids, A., i, 119.
Schöndorff, *Bernhard*, the origin of glycogen from proteid, A., ii, 154.
Schönewald, *Hans*. See *Wilhelm* **Koenigs**.
Scholl, *Roland*, constitution of primary dinitrohydrocarbons, A., i, 753.
Scholtz, *Max*, new oxidation product of uric acid, A., i, 140.
—— cyclic diammonium compounds, A., i, 835.
Schoorl, *Nicolaas*, carbamide derivatives of sugars, II., A., i, 83.
—— examination of alcoholic liquids for methyl alcohol, A., ii, 703.
Schorlemmer, *Karl*, *s*-*op*-dinitrodiphenylmethane, A., i, 435.
Schrefeld, *O.*, estimation of sucrose in preserved fruits containing starch sugar, A., ii, 536.
Schreinemakers, *Franz Antoon Hubert*, folding point curves in ternary systems, A., ii, 61.
—— vapour pressure in the system, water—acetone—phenol, A., ii, 243, 380, 599.
Schreiner, *Oswald*, and *W. R.* **Downer**, specific gravities and coefficients of expansion of the volatile oils, A., i, 108.
Schreiner, *Oswald*, and *Edward* **Kremers**, characterisation and classification of the sesquiterpenes. IV., A., i, 108.
Schreuer, *Max*. See *Johannes* **Frentzel**.
Schrobsdorff, *H.*, reduction of chrysazin with hydrogen iodide, A., i, 773.
Schröder, *Heinrich*. See *Eduard* **Buchner**.
Schröder, *R.*, proteids of yeast, A., i, 730.
Schroeter, *Georg*, and *Carl* **Kirnberger**, monoethyl α-anilinopyrotartarate mononitrile [ethyl β-anilino-β-cyanobutyrate] and its products of transformation, A., i, 530.
—— —— diethyl β-anilinotricarballylic acid mononitrile and its products of transformation, A., i, 531.
Schroeter, *Georg*, and *Hans* **Meerwein**, nitrated phenylglutaric acids and their reduction products, A., i, 544.
Schroeter, *Georg*, and *Leonhard* **Schmitz**, dimethyl hydrogen citrate, A., i, 531.
Schröter, *J.* See *Robert* **Pschorr**.
Schtarbanow, *P.* See *Paul N.* **Raikow**.
Schuchard, *E.* See *Alfred* **Stavenhagen**.
Schükareff, *A.*, thermodynamics of concentrated solutions, A., ii, 4.
Schükareff, *A.* See also *Wladimir F.* **Luginin**.
Schulte im Hofe, *August*, quantity of indican contained in *Indigofera tinctoria* and the manufacture of indigo, A., ii, 347.
Schulten, *August* [*Benjamin* (*Baron*)] *de*, artificial preparation of monetite, A., ii, 89.
Schultz, *Gustav*, estimation of nitrous acid in sodium nitrite, A., ii, 473.
Schultz, *Gustav*, and *Eberhard* **Bosch**, benzylethylaniline, A., i, 364.
Schultz, *Gustav*, and *J.* **Erber**, derivatives of α-aminoalizarin, A., i, 299.
Schultz, *Gustav*, and *J.* **Flachsländer**, nitroethylbenzene and its tetrazo-dye, A., i, 751.
—— —— methylanthranilic acid, A., i, 778.
Schultz, *Gustav*, and *M.* **Tichomiroff**, isomerides of the base of the dye "erika," A., i, 401.
Schultze, *Hugo*, viscosity of helium and its alteration with temperature, A., ii, 5.
Schulz, *Hugo*, silicic acid in the tissues, especially in the Whartonian jelly, A., ii, 275.
Schulze, *Bernhard*, keeping properties and storage of molasses foods, A., ii, 579.
—— effect of calcium carbonate in the soil on the development of leguminous plants in pots, A., ii, 580.
—— pot experiments on the manurial requirements of Silesian soils, A., ii, 580.
—— plot and pot experiments on the value of different potassium manures, A., ii, 581.
Schulze, *Carl*, alinit, A., ii, 344.
Schulze, *Ernst*, crystallised stachyose, A., i, 594.
—— can leucine and tyrosine serve as nutrients for plants? A., ii, 165, 280.
—— drying of carbohydrates and estimation of their water of crystallisation, A., ii, 292.
Schulze, *Ernst*, and *Ernst* **Winterstein**, action of monoamino-acids on phosphotungstic acid, A., i, 137.
—— —— amounts of hexone bases obtained from vegetable proteids, A., i, 193.
—— —— arginine and ornithine, A., i, 231.
—— —— amino-acids prepared from plants, A., i, 595.

Schulze, *Ernst*, and *Ernst* **Winterstein**, separation of phenylalanine from amino-acids, A., i, 613.
Schulze, *Heinrich*. See *Carl* **Paal**.
Schumann, *Curt*. See *Karl* **Auwers**.
Schumann, *K.*, Soltsien's method for the estimation of sugar, A., ii, 631.
Schumoff-Simonowski, *C.* See *Nadine* **Sieber**.
Schunck, *Edward*, chlorophyll. VIII. Changes undergone by chlorophyll in passing through the bodies of animals, A., i, 301.
Schur, *Heinrich*. See *Richard* **Burian**.
Schuyten, *M. C.*, nitroprusside, ferrocyanide, and ferricyanide of antipyrine, A., i, 187.
—— compounds of antipyrine with ferric haloids, A., i, 188.
—— criticisms on melting point determinations, A., ii, 195.
Schwabacher, *Fritz*. See *Julius* **Mai**.
Schwabacher, *H.* See *Alfred* **Werner**.
Schwabbauer, *G.*, action of methylamine and ethylamine on furfuraldehyde and cuminaldehyde, A., i, 230.
Schwalbe, *Carl*, influence of the solvent on the orientation of the isomerides obtained on nitration in the aromatic series, A., i, 755.
Schwarz, *Rudolf*. See *Julius von* **Braun**, and *Adolf* **Pinner**.
Schweinberger, *A.*, velocity of reaction in organic solvents; decomposition of chloro- and bromo-acetic acids by various bases in solution in different alcohols, A., ii, 126.
Scott, *Alexander*, atomic weight of tellurium, P., **1902**, 112.
Scott, *James*, subcutaneous injections of dextrose, and metabolism, A., ii, 337.
Scurti, *F.* See *Angelo* **Angeli**.
Sebelien, *John*, manurial experiments, A., ii, 44.
Seelhorst, *Conrad von*, conditions of temperature and moisture of a loamy soil with different crops and different manures, A., ii, 42.
—— number and depth of roots of different plants with various manures, A., ii, 524.
—— effect of soil moisture on the action of bone-meal as compared with basic slag and superphosphate, A., ii, 580.
Seelhorst, *Conrad von*. See also **Creydt**.
Seeman, *Richard*. See *August* **Michaelis**.
Seemann, *John*. See *Friedrich* **Kutscher**.
Seidel, *Heinrich*, derivatives of nitrophthalic acid, A., i, 159.
Seidel, *Heinrich*, and *J. C.* **Bittner**, derivatives of the nitrophthalic acids, A., i, 719.
Seidell, *Atherton*, [with *Frank Kenneth* **Cameron**], solubilities of mixtures of sodium sulphate and sodium chloride, A., ii, 207.
Seidell, *Atherton*. See also *Frank Kenneth* **Cameron**.
Seifert, *W.*, formation of volatile acids in alcoholic fermentation, A., ii, 98.
—— production of hydrogen sulphide in alcoholic fermentation, A., ii, 98.
Seiler, *F.*, and *A.* **Verda**, estimation of iron, A., ii, 699.
Seissl, *Josef*, and *Emanuel* **Gross**, amounts of potassium and phosphoric acid in the ashes of leaves of various varieties of potatoes rich in starch, A., ii, 687.
Seitter, *E.* See *Ludwig* **Vanino**.
Sellier, *G.*, new apparatus for the estimation of volatile acids in wines, A., ii, 180.
Sellier, *G.* See also *Xavier* **Rocques**.
Sellier, *J.*, lipase in the lower animals, A., ii, 217.
Semmler, *Friedrich Wilhelm*, camphene and camphor, A., i, 385.
—— sabinenes, A., i, 550.
Senderens, *Jean Baptiste*, sesquisodium phosphate, A., ii, 319.
Senderens, *Jean Baptiste*. See also *Paul* **Sabatier**.
Sendtner, *R.*, commercial lemon juices, A., ii, 181.
Senier, *Alfred*, and *William* **Goodwin**, the action of methylene diiodide on aryl- and naphthyl-amines. Diarylmethylenediamines, acridines, and naphthacridines, T., 280; P., **1902**, 12.
Senier, *Alfred*, and *Thomas* **Walsh**, the polymerisation of cyanic acid: cyanuric acid, and cyamelide, T., 290; P., **1902**, 13.
Sernoff. See **Zernoff**.
Sestini, *Fausto*, humic substances, A., i, 136.
—— action of nitric acid on quinone, A., i, 548.
—— action of water on natural metasilicates, A., ii, 212.
Seubert, *Karl*. See *Hans* **Landolt**.
Sevin, *Otto*. See *Arthur* **Kötz**.
Seybel, *E.*, and *H.* **Wikander**, detection of arsenic in hydrochloric and sulphuric acids, A., ii, 289.
Seydel, *C.* See *Robert* **Pschorr**.
Seyewetz, *Alphonse*, and **Biot**, compounds of sodium tetrazoditolylsulphonate with aromatic amines and phenols, and their conversion into azocolours, A., i, 509.

Seyewetz, *Alphonse*. See also *Auguste* **Lumière**.
Seyler, *Heinrich*, a new constituent of German oil of sage, A., i, 229.
Shaffer, *Philip A.* See *Otto* **Folin**.
Shaw, *H. Batty*, leucocytosis following intravenous injections of sodium cinnamate, A., ii, 277.
Shaw, *Saville*, obituary notice of, T., 630.
Shedd, *O. M.* See *J. H.* **Kastle**.
Shedden, *Frank*. See *Frederick Belding* **Power**.
Sheen, *William*. See *Swale* **Vincent**.
Shelton, *H. S.*, the molecular condition of borax in solution, P., **1902**, 169.
Sherman, *H. C.*, *J. L.* **Danziger**, and *L.* **Kohnstamm**, temperature reaction of oils with sulphuric acid—Maumené's test, A., ii, 436.
Sherman, *H. C.*, and *J. F.* **Snell**, relation of the heat of combustion to the specific gravity in fatty oils, A., ii, 435.
Shukoff, *Al. A.*, determination of the solidifying point of fats, A., ii, 196.
Siau, *Raymond L.* See *Frederick William* **Pavy**.
Siboni, *Giuseppe*, cacodylic acid and its compounds, A., i, 432.
Sicherer, *Walther von*. See *Carl* **Bülow**.
Sieber, *Nadine*, and *C.* **Schumoff-Simonowski**, action of erepsin and intestinal juice on toxins and abrin, A., ii, 680.
Siebert, *O.* See *Theodor* **Zincke**.
Sieden, *Fr.* See *Heinrich* **Biltz**.
Siedler, *Paul*, [with **Körner** and **Winzheimer**], substances contained in plants, A., i, 486.
Siedler, *Philipp*. See *Georg W. A.* **Kahlbaum**.
Siegert, *F.*, composition of the fat in young children, A., ii, 34.
—— behaviour of fat during autolysis of the liver, A., ii, 34.
Siegfried, *Max*, the existence of lysatinine, A., i, 557.
—— antipeptone, II., A., i, 654.
—— reticulin and collagen, A., ii, 517.
Sieglin, *H.* See *C.* **Beger**.
Siertsema, *Lodewyk Hendrik*, dispersion of the magnetic rotation of the plane of polarisation in negatively rotating salt solutions. II. Further measurements with potassium ferricyanide, A., ii, 237.
Sigel, *Albert*. See *Karl* **Auwers**.
Silber, *Paul G.* See *Giacomo Luigi* **Ciamician**.
Silberrad, *Oswald*, polymerisation products from diazoacetic acid, T., 598; P., **1902**, 44.
Silberstern, *L.* See *Paul* **Friedländer**.
Simon, *Gustav*, proteids of cow's milk, A., ii, 95.
Simon, *L. J.*, action of urethane on pyruvic acid, A., i, 14.
—— action of carbamide on pyruvic acid, A., i, 15.
—— some derivatives of ethyl pyruvylpyruvate, A., i, 422.
Simon, *Oscar*, formation of glycogen, A., ii, 574.
Simoncini, *G. B.*, supposed preparation of acetol [acetylcarbinol], A., i, 198.
Simpson, *Edward S.*, [calaverite and coloradoite from Western Australia], A., ii, 509.
—— [coloradoite from Western Australia], A., ii, 510.
Simpson, *Maxwell*, obituary notice of, T., 631.
Singer, *Fritz*. See *Julius* **Sand**.
Singer, *Sidney K.* See *Theodore William* **Richards**.
Sisley, *Paul*, dyeing of animal fibres by acid colouring matters, A., i, 815.
Sivén, *V. O.*, metabolism in men with special reference to proteid requirements, A., ii, 513.
Sjögren, [*Sten Anders*] *Hjalmar*, composition of silver amalgam from Sala, A., ii, 509.
Sjollema, *B.*, the influence of feeding on the composition of the fat of milk, A., ii, 527.
Skilling, *William T.*, dissociating power of hydrogen sulphide, A., ii, 13.
Skirrow, *Frederick William*, solubility of carbon monoxide in binary organic mixtures, A., ii, 600.
Skita, *Aladar*. See *Emil* **Fischer**.
Skraup, *Zdenko Hanns*, physical properties of α- and β-isocinchonine, A., i, 305.
—— cinchonifine, cinchotine, and cinchonine, A., i, 306.
Skraup, *Zdenko Hanns*, and *Josef* **König**, cellobiose, A., i, 135.
Skraup, *Zdenko Hanns*, and *Robert* **Kremann**, synthetical experiments with tetra-acetylchlorodextrose and tetra-acetylchlorogalactose, A., i, 134.
Skraup, *Zdenko Hanns*, and *Gabriel* **Piccoli**, Hofmann's reaction, A., i, 565.
Skraup, *Zdenko Hanns*, and *Rud.* **Zwerger**, oxidation of α-isocinchonine, A., i, 305.
—— allocinchonine, A., i, 726.
Slaboszewicz, *Josef*. See *Rudolf* **Nietzki**.
Slaus-Kantscheider, *J.* See *C.* **Ehrmann**.
Slavík, *Fr.*, crystallography of ammonium haloid compounds, A., ii, 561.
Slavík, *Fr.* See also *František* **Kovář**.

Slimmer, *Max Darwin*, aminovaleric acids, A., i, 206.
Slimmer, *Max Darwin*. See also *Emil* **Fischer**.
Slowtzoff, *B.*, compounds of mercury and arsenic in the liver, A., ii, 34.
—— behaviour of xylan in the animal body, A., ii, 154.
—— human semen, A., ii, 574.
—— combination of copper in the liver, A., ii, 618.
Sluyter, *H.* See *J.* **Paessler**.
Smiles, *Samuel*. See *Ludwig* **Knorr**, and *Henri* **Moissan**.
Smith, *Alexander*, and *Willis B.* **Holmes**, amorphous sulphur, A., ii, 650.
Smith, *Alexander*, and *Herbert N.* **McCoy**, action of phenylhydrazine on $\alpha\delta$-diketones, A., i, 645.
Smith, (*Miss*) *Alice E.* See *William Henry* **Perkin**, *jun.*
Smith, *Clarence*, studies in the tetrahydronaphthalene series. I. The diazoamino-compounds of *ar*-tetrahydro-β-naphthalene, T., 900; P., **1902**, 137; discussion, P., 138.
Smith, *Edgar Francis*, and *Franz F.* **Exner**, ammonium vanadicophosphotungstate, A., ii, 506.
Smith, *G. F. Herbert*, with analyses by *George Thurland* **Prior**, crystalline development of calaverite, A., ii, 404.
Smith, *H. Procter*, [estimation of vanadium], A., ii, 231.
Smith, *Henry G.*, new aromatic aldehyde occurring in eucalyptus oils, A., i, 102.
—— constituent of peppermint-like odour occurring in many eucalyptus oils, A., i, 108.
—— amyl eudesmate occurring in eucalyptus oils, A., i, 109.
—— sesquiterpene of eucalyptus oils, A., i, 229.
Smith, *Norman*. See *Edward John* **Russell**.
Smith, *Watson*, new glyceride: glyceryl phthalate, A., i, 159.
Smits, *Andreas*, investigations with the micromanometer, A., ii, 123.
Smits, *Andreas*. See also *Ludwig Karl* **Wolff**.
Smolka, *Alois*, and *Ed.* **Halla**, α- and β-naphthyldiguanide, A., i, 323.
Smythe, *John Armstrong*, the comparison of sulphoxides with ketones, A., i, 221.
Smythe, *John Armstrong*. See also *Frederic Charles* **Garrett**.
Snell, *J. F.* See *H. C.* **Sherman**.
Soddy, *Frederick*, the radioactivity of uranium, T., 860; P., **1902**, 121.
Soddy, *Frederick*. See also *E.* **Rutherford**.
Sodeau, *William Horace*, the decomposition of chlorates. Part V. Potassium chlorate in presence of oxides of manganese, and the theory of perchlorate formation, T., 1066; P., **1902**, 136; discussion, P., 136.
Soden, *Hugo von*, and *Karl* **Henle**, Algerian oil of rue, A., i, 301.
Soden, *Hugo von*, and *Wilhelm* **Rojahn**, new crystalline component of bergamot oil, A., i, 44.
Söderbaum, *Henrik Gustav*, manurial experiments with precipitated calcium phosphate, A., ii, 350.
Söldner, *Friedrich*. See *William* **Camerer**, *jun.*
Soetbeer, *Franz*, the work of secretion in diseased kidneys, A., ii, 417.
—— Blumenthal's method of estimating hippuric acid, A., ii, 633.
Soetbeer, *Franz*, and *Jussuf* **Ibrahim**, the fate of uric acid, administered as such, in the human organism, A., ii, 337.
Soldaini, *Arturo*, decomposition products of *d*-lupanine from *Lupinus albus*, A., i, 392, 638.
Sollied, *P. Ravn*, occurrence of methylpentosan in nature, A., ii, 219.
Sollmann, *Torald*, dissociation and combination of Witte's peptone, A., i, 512.
—— combination of formaldehyde with Witte's peptone, A., i, 579.
Solly, *Richard Harrison*, [with an analysis by *Henry* **Jackson**], baumhauerite, a new mineral; and dufrenoysite, A., ii, 403.
Solomonica, *M.* See *Jacques* **Pollak**.
Solonina, *A. A.*, preparation of $\gamma\delta$-unsaturated monobasic acids, A., i, 256.
Solonina, *A. A.* See also *Wladimir N.* **Ipatieff**.
Solonina, *Basil von*. See *Herman* **Decker**.
Soltsien, *Paul*, detection of sesamé oil, A., ii, 113.
—— occurrence and detection of sesamé oil in commercial arachis oils, A., ii, 114.
—— detection of adulterations with margarine by the sesamé oil reaction, A., ii, 183.
Sommer, *A.* See *Fr.* **Kraus**.
Sonneborn, *Ferdinand*. See *Fritz* **Fichter**.
Sonntag, *G.*, excretion of boric acid in man, A., ii, 678.

Sorge, *R.*, condensation of aromatic ketones, A., i, 379.
Spaeth, *Eduard*, analysis of raspberry juice, A., ii, 116.
Spencer, *Leonard James.* See *George Thurland* **Prior.**
Speranski, *Nicolai A.*, condensation of ethyl bromoacetate with cyclopentanone and β-methylcyclopentanone, A., i, 341.
—— oxidation of menthone, pulegone, and β-methylhexanone, A., i, 384.
Speranski, *Nicolai A.* See also *Otto* **Wallach.**
Speyer, *Edmund.* See *Martin* **Freund,** and *Emil* **Knoevenagel.**
Speyer, *Rosa.* See *J. H.* **Kastle.**
Speyers, *Clarence Livingston*, molecular weights of some carbon compounds in concentrated solutions with carbon compounds as solvents, A., ii, 388.
Spica, *Matteo*, derivatives of camphor, A., i, 43.
Spica, *Pietro*, supposed new substances: Pagliari's olivin and olivoin, A., ii, 346.
Spica, *Pietro*, and *Guido* **Schiavon,** mineral water of Poleo, near Schio [Italy], A., ii, 270.
—— —— mineral water from the Jolanda Spring, near Staro [Italy], A., ii, 271.
Spieckermann, *Alb.* See *Josef* **König.**
Spiegel, *L.*, metabolism in man, A., ii, 93.
Spiegel, *Leopold*, neutral affinities, A., ii, 248.
Spiess. See *Erwin* **Rupp.**
Spiess, *P.* See *Arthur* **Kötz.**
Spilker, *Adolf.* See *Gustav* **Kraemer.**
Spiro, *Karl*, the aromatic group in gelatin, A., i, 192.
—— acid poisoning in the dog and rabbit, A., ii, 37.
Spiro, *Karl.* See also *B.* **Haake.**
Spitta, *Albert.* See *Eduard* **Buchner.**
Spitzauer, *Karl.* See *Karl* **Michel.**
Spivey, *William Thomas Newton*, obituary notice of, T., 635.
Sprankling, *Charles Henry Graham*, note on the localisation of phosphates in the sugar cane, T., 1543; P., **1902,** 196.
Sprankling, *Charles Henry Graham.* See also *William Arthur* **Bone,** and *Alexander William* **Gilbody.**
Spriggs, *E. I.*, a new method of observing peptic activity, A., i, 410.
Spring, *Walthère*, pressure as supplement to temperature in the phenomenon of inflammation, A., ii, 59.
—— [density of cuprous iodide], a correction, A., ii, 608.
Springer, *Edmund*, extraction of alkaloids from alkaline liquids, A., i, 390.
—— action of Caro's reagent on alkaloids, A., i, 485.
—— extraction of alkaloids from acid solutions and of alkaloid salts from aqueous solutions, A., ii, 542.
—— limits of sensitiveness of alkaloidal precipitants, A., ii, 543.
Sproesser, *L.*, electrolysis of alkali chlorides with carbon anodes, A., ii, 193.
Stackelberg, *Ed. von*, methods of determining the heat of solution at the point of saturation, A., ii, 489.
Staden, *O.*, methylation of 4-nitro-*o*-toluidine, A., i, 444.
Stadlinger, *H.*, formation of pseudophite in granitic rocks, A., ii, 90.
Stadt, *Engel van de*, behaviour of succinic and phthalic anhydrides towards water, A., ii, 598.
Staedel, *Wilhelm*, crystallised hydrogen peroxide, A., ii, 604.
Staehlin, *Otto.* See *Otto* **Diels.**
Stafford, *Orin F.* See *Edward C.* **Franklin.**
Stahl, *Wilh.*, a variety of polydymite or sychnodymite, A., ii, 87.
Staigmüller, *H.*, the periodic system of the elements, A., ii, 129.
Stampa, *Carlo.* See *Friedrich* **Kehrmann.**
Staněk, *Vl.*, improved method for the preparation of betaine, A., i, 427.
Staněk, *Vl.* See also *Karl* **Andrlík.**
Stanley, *O. O.* See *George T.* **Kemp.**
Stansfield, *Edgar*, preparation of barium, A., ii, 138.
Stapleton, *Henry Ernest.* See *Siegfried* **Ruhemann.**
Starke, *Johannes*, the influence of the medium, especially of inorganic substances, on the properties of proteids, A., i, 192.
—— supposed presence of solanin in tobacco seeds, A., ii, 166.
Starling, *Ernest Henry.* See *William Maddock* **Bayliss.**
Stassano, *Henri*, nature and constitution of the spectra of the aurora borealis, A., ii, 437.
Stassano, *Henri*, and *F.* **Billon,** the action of lecithin on the formed elements of the blood, A., ii, 411.
—— —— physiology of leucocytes, A., ii, 678.
Stavenhagen, *Alfred*, and *E.* **Schuchard,** tungsten, molybdenum, uranium, and titanium, III., A., ii, 265.

Steele, *Bertram D.*, an accurate method of measuring the compressibilities of vapours, T., 1076; P., **1902**, 165.
—— place of the rare earth metals among the elements, A., ii, 79.
—— measurement of ionic velocities in aqueous solution, and the existence of complexions, A., ii, 241.
Steele, *Bertram D.*, and *R. B.* **Denison**, the transport number of very dilute solutions, T., 456; P., **1902**, 29.
Stefano, *G. di.* See *Giovanni* **Ortoleva**.
Stehman, *John V. R.*, application of Eschka's method to pig iron, A., ii, 699.
Steiger, *George*, solubility of certain natural silicates in water, A., ii, 212.
—— silver-chabazite and silver-analcite, A., ii, 561.
Steiger, *George*. See also *Frank Wigglesworth* **Clarke**.
Stein, *Max*. See *August* **Michaelis**.
Stein, *S.*, formation of coal, A., ii, 87.
Steinbock, *Hermann*. See *Oscar* **Piloty**.
Steinitzer, *Fritz*, the use of centrifugal apparatus for quantitative analysis, A., ii, 351.
Steinmann, *Albert*, Halphen's reaction, A., ii, 366.
Steinmann, *Albert*. See also *Amé* **Pictet**.
Steinwehr, *H. von*. See *Friedrich* **Kohlrausch**.
Stellmann, *Wilhelm*. See *Arthur* **Rosenheim**.
Stenger, *Erich*. See *Franz* **Feist**.
Stephan, *Karl*, and *J.* **Helle**, $\Delta^{8:9}$-terpen-1-ol: a new terpineol melting at 32°, A., i, 631.
Stephani, *O.*, pseudophenols, A., i, 148.
Stephani, *O.*, and *Theodor* **Böcker**, new extraction apparatus, A., ii, 556.
Stepanoff, *A.*, the decomposition of potassium iodide in the organism by nitrates, A., ii, 620.
Sterba, *Jean*, cerium oxycarbide, A., ii, 399.
—— cerium silicide, A., ii, 563.
Sternberg, *Wilhelm*, compound of tartaric acid with formaldehyde, A., i, 259.
—— action of formaldehyde on citric acid, A., i, 259.
Steudel, *H.*, method for the detection of glucosamine, and its employment on the decomposition products of mucins, A. i, 399.
—— decomposition of proteids, A., i, 731.
Steven, *Alec Bowring*. See *Arthur George* **Perkin**.
Stevens, *A. B.*, assay of opium, A., ii, 711.
Stevens, *Henry Potter*, thiocarbamide hydrochloride, T., 79; P., **1901**, 210.
Stevens, *Henry Potter*, metathorium oxychloride, A., ii, 566.
Steyrer, *Anton*, osmotic analysis of urine, A., ii, 632.
Stich, *Conrad*, urobilin in ascitic fluid, A., ii, 418.
Stieglitz, *Julius*, positive and negative halogen ions, A., ii., 66.
Stiénen, *Paul*, amino-alcohols containing C_4 and C_5, A., i, 265.
Stillich, *Otto*. See *Jacob* **Meyer**.
Stillman, *Thos. B.*, estimation of alkalis in Portland cement and natural cements, A., ii, 175.
Stobbe, *Hans*, preparation of deoxybenzoin, A., i, 298.
—— unsaturated dicarboxylic acids from ketones and diethyl succinate, A., i, 459.
—— semi-cyclic 1:5-diketones, A., i, 472.
Stobbe, *Hans*, and *Karl* **Niedenzu**, two stereoisomeric benzylidenedeoxybenzoins, A., i, 103.
—— —— condensation of propiophenone with diethyl succinate, A., i, 460.
Stobbe, *Hans*, *Arthur* **Strigel**, and *Carl* **Meyer**, condensation of methyl ethyl ketone with ethyl succinate, A., i, 461.
Stobbe, *Hans*, and *Walther* **Viewig**, indoneacetic acids. I. 3-Phenyl-1-indone-2-acetic acid and 3-phenyl-1-hydrindone-2-acetolactone, A., i, 542.
Stock, *A.* See *Oscar* **Piloty**.
Stock, *Alfred*, and *Walther* **Doht**, preparation of antimony hydride, A., ii, 507.
Stockhausen, *Ferdinand*. See *Wilhelm* **Koenigs**.
Stoeber, *Willi*. See *Wilhelm* **Wislicenus**.
Stoermer, *Richard*, and *Bruno* **Kahlert**, decomposition of coumarone by means of alcoholic potassium hydroxide, A., i, 457.
—— —— 1- and 2-bromocoumarone, A., i, 457.
—— —— 1-nitrocoumarone and one of its characteristic transformations, A., i, 457.
Stokes, *Henry N.*, pyrites and marcasite, A., ii, 87.
—— [discrimination between and estimation of pyrites and marcasite in mixtures], A., ii, 104.
Stoklasa, *Julius*, new problems in soil inoculation, A., ii, 285.
Stollé, *Robert*, preparation of alkylhydrazines, A., i, 57.
—— formation of acetals from hydroxynitriles, A., i, 468.
Storbeck, *Otto*. See *Guido* **Bodländer**.

Storch, *B.*, detection of heated milk, A., ii, 539.
Storer, *Francis H.*, testing for mannose, A., ii, 704.
Stork, *S. J.* See *J.* **Koster**.
Storp, *Wilhelm.* See *August* **Klages**.
Stortenbeker, *Willem*, thallous sulphates, A., ii, 397.
Strandmark, *J. E.*, leonite from Leopoldshall, A., ii, 666.
—— dolerophanite as a furnace product, A., ii, 666.
Straneo, *Paolo*, measure of the electrolytic diffusion, transport numbers, and mobility of the ions, I., A., ii, 241.
Straub, *Walther*, toxicological studies on the Selachian heart, A., ii, 161.
Straus, *Fritz.* See *Johannes* **Thiele**.
Strauss, *Eduard.* See *Karl A.* **Hofmann**.
Strauss, *H.* See *Carl* **Neuberg**.
Streintz, *Franz*, conductivity and atomic heat of the metals, A., ii, 595.
Strigel, *Arthur.* See *Hans* **Stobbe**.
Stritar, *Milan Josef.* See *Simon* **Zeisel**.
Strohbach, *Erich*, 2-chloro-3-naphthoic acid, A., i, 149.
—— action of benzenediazonium chloride on methylene-di-2-hydroxy-3-naphthoic acid, A., i, 161.
—— xanthones from 2-hydroxy-3-naphthoic acid; formation of xanthones, A., i, 171.
—— naphthacridones and naphthacridines, A., i, 183.
Strohé. See **Lehmann**.
Stromeyer, *C. E.*, chemical gas washing apparatus, A., ii, 251.
Struthers, *R. de J. Fleming.* See *James Ernest* **Marsh**.
Struve, *Heinrich*, [choline as a criterion for artificial brandy], A., ii, 636.
Strzelecka, *Marya*, homologues of deoxybenzoin, A., i, 470.
Strzyzowski, *Casimir*, detection of indican in urine, A., ii, 186.
Stscheglayew, a method for the production of coloured flames, A., ii, 57.
Stubbs, *George.* See *Thomas Edward* **Thorpe**.
Stübel, *A.* See *W.* **Reiss**.
Suais, *E.* See *Auguste* **Rosenstiehl**.
Sundvik, *Ernst Edw.*, birotation of chitosamine (glucosamine), A., i, 137.
Surre, microchemical detection of some alkaloids, A., ii, 543.
Suschtschinsky, *P. von*, minerals from the Ilmen Mountains, A., ii, 30.
Sutherland, *William*, ionisation, ionic velocities, and atomic sizes, A., ii, 300.
Sutherst, *Walter Frederick*, solubility of phosphatic manures in some organic acids, A., ii, 44.
Sutherst, *Walter Frederick*, influence of manuring on the composition of potatoes, A., ii, 103.
—— effect of lime on the insoluble phosphates in the soil, A., ii, 471.
—— composition of colostrum, A., ii, 677.
Suzuki, *Umetarō*, formation of asparagine in the metabolism of shoots, A., ii, 684.
—— composition of the nuts of Gingko biloba, A., ii, 685.
Swan, *J. N.*, generator for hydrogen sulphide, A., ii, 449.
Swarts, *Frédéric*, fluorobromo-derivatives containing two atoms of carbon, IV., A., i, 129.
Sweester, *W. S.*, manurial value of the excretions of cows, A., ii, 170.
Swiderski. See *Wladimir N.* **Ipatieff**.
Szterkhers, *E.*, new process for the volumetric evaluation of red lead, A., ii, 531.
Szumowski, *W.*, zein as food, A., ii, 674.

T.

Tacke, *Bruno*, the time for manuring peaty meadows, especially with potassium salts, A., ii, 580.
—— manurial experiments with forty per cent. potassium salts on potatoes on peat soil, A., ii, 687.
Täuber, *Ernst*, glyceryl salicylate, A., i, 370.
Täuber, *Ernst*, and *Franz* **Walder**, nitroso-*m*-phenylenediamine and nitroso-2:4-tolylenediamine, A., i, 118.
Täubner, *H.*, detection of magnesia in calcium oxalate precipitates, A., ii, 356.
Tafel, *Julius*, electrolytic reduction of nitric acid in presence of hydrochloric acid or sulphuric acid, A., ii, 559.
Tafel, *Julius*, and *Karl* **Eckstein**, electrolytic reduction of camphorimide, A., i, 43.
Tafel, *Julius*, and *Kurt* **Naumann**, electrolytic reduction of strychnine and of brucine, A., i, 53.
Tafel, *Julius*, and *Ephraim* **Pfeffermann**, electrolytic reduction of oximes and phenylhydrazones in sulphuric acid, A., i, 498.
Tafel, *Julius*, and *Ludwig* **Reindl**, electrolytic reduction of cyclic ureides, A., i, 15.
Tafel, *Julius*, and *Karl* **Schmitz**, reducing action of lead and mercury cathodes in solutions containing sulphuric acid, A., ii, 442.
Taffe, *Henri*, detection of salicylic acid in foods, A., ii, 292.

Takamine, *Jokichi*, adrenalin: the active principle of the suprarenal glands and its mode of preparation, A., ii, 217.
Tallqvist, *T. W.*, influence of fat and carbohydrate on proteid metabolism, A., ii, 273.
Tambor, *Josef.* See *Elvesio* **Bollina**, *M.* **Karnowski**, and *Stanislaus von* **Kostanecki.**
Tammann, *Gustav*, the condition diagram for phosphonium chloride, A., ii, 69.
—— so-called liquid crystals, II., A., ii, 445.
Tanatar, *Simeon M.*, molecular compounds of hydrogen peroxide with salts, A., ii, 11.
—— the so-called silver peroxynitrate, A., ii, 73.
—— catalysis of hydroxylamine and hydrazine, A., ii, 386.
—— method of preparation of azoimide, A., ii, 450.
—— catalysis of hydrazine, A., ii, 495.
Tanatar, *Simeon M.*, and *M.* **Levin**, cadmium suboxides, A., ii, 658.
Tangl, *Ferencz*, metabolism of phosphorus, calcium, and magnesium in Herbivora, A., ii, 272.
Tanret, *Charles*, extraction of reducing sugars (monoses), A., i, 426.
—— two new sugars contained in manna, manneotetrose, and manninotriose, A., i, 661.
Tarassenko, *W.*, composition of plagioclase, A., ii, 30.
Tardy, *E.*, some reactions of fenchone, A., i, 632.
Tarugi, *N.*, mercury oxychlorides, A., ii, 20.
Tarugi, *N.*, and *Q.* **Checchi**, doubtful points in the application of Mendeléeff's periodic law, A., i, 203.
Tassin, *Wirt*, Casas Grandes meteorite, A., ii, 670.
Tatschaloff, *Alexander von*, *o*-nitrobenzophenone, A., i, 435.
—— methylation of 6-nitro-*o*-toluidine, A., i, 443.
Taylor, *Alonzo Englebert*, proteid decomposition products in a degenerated liver, A., ii, 342.
Taylor, *Robert Llewellyn*, hypoiodous acid, P., **1902**, 72.
—— modification of Rose's method of separating cobalt and nickel, A., ii, 476.
Taylor, *Thomas M.*, ammonium tungstates, A., ii, 661.
Tcherniac, *Joseph.* See **Tscherniac.**
Teall, *Jethro Justinian Harris*, and *William* **Pollard**, the marbles of Assynt, A., ii, 268.
Tebb, *M. Christine*, reticulin and collagen, A., ii, 218.
Teichert, *Kurt*, alcohol in milk, A., ii, 348.
Teichner, *G.*, dibromoxyloquinhydrone, A., i, 629.
Telle, *Fernand*, rapid method for the analysis of soaps, A., ii, 707.
Ter Braake, *B. H. J.*, anæropolarimetry, A., i, 742.
—— action of water on the ethyl monosodium and monopotassium tartrates, A., i, 742.
Termier, *Pierre*, neotantalite; a new mineral, A., ii, 406.
Tervet, *John N.*, new design for potash bulbs, A., ii, 355.
Tervet, *John N.* See also *John Theodore* **Hewitt.**
Tétry, *Léon* [*Alexandre*], action of phosphorus pentachloride on tetrachloro-*o*-benzoylbenzoic acid, A., i, 372.
—— proximate analysis of the essence of *Mentha Pulegium*, A., i, 386.
—— derivatives of 2-methylcyclohexanone, A., i, 469.
—— condensations with zinc and ethyl iodoacetate, A., i, 584.
Tétry, *Léon.* See also *Louis* **Bouveault.**
Thatcher, *R. W.* See *R. S.* **Hiltner.**
Thede, *Johannes.* See *Otto* **Wallach.**
Thesmar, *G.* See *Emilio* **Nölting.**
Theulier, *Eugène*, essence of sweet orange blossom or neroli Portugal, A., i, 386.
Thibault, *Eug.*, artificial pepsin digestions in the presence of alcohol, A., i, 411.
Thibault, *Paul*, so-called basic bismuth gallate of the codex, A., i, 101.
—— crystallised bismuth salicylate and gallate, A., i, 290.
Thibault, *Paul*, and *Alexander Ch.* **Vournasos**, new method of organic analysis, A., ii, 696.
Thibert, *Constant*, physiological action of decoction of mussels, A., ii, 96.
Thiel, *Alfred*, iodometry of thiocyanic acid, A., ii, 706.
Thiele, *Hermann*, and *Hans* **Deckert**, standardisation of potassium permanganate with iron, A., ii, 176.
Thiele, *Johannes*, piperylene and tropilidene, A., i, 145.
—— the constitution of unsaturated and aromatic compounds, A., i, 151.
—— unsaturated γ-lactones, A., i, 152.
Thiele, *Johannes*, and *Paul* **Jehl**, reduction of vinylacrylic acid, A., i, 584.
Thiele, *Johannes*, and *N.* **Salzberger**, [phenyl-Δ^{α}-crotonolactone]; the unsaturated Δ^{α}-lactone of benzoylpropionic acid, A., i, 157.
Thiele, *Johannes*, and *Fritz* **Straus**, the lactones of desylacetic acid, A., i, 154.

Thiele, *Johannes*, and *Fritz* **Straus**, unsaturated lactones of dihydrocornicularic acid, A., i, 158.

Thiele, *Johannes*, *Robert* **Tischbein**, and *Emil* **Lossow**, the lactones of angelic acid, A., i, 155.

Thiesen, *Max*, supposed anomalous behaviour of oxygen at low pressure, A., ii, 13.

Thölke, *Fritz*. See *Otto* **Wallach**.

Thöny, *J.* See *Ernst* **Winterstein**.

Thomas, analysis of the urine in a case of osteomalacia, A., ii, 96.

Thomas, *George E.*, and *Clarence A.* **Hall**, new apparatus in water analysis, A., ii, 534.

Thomas, *Paul*. See *Friedrich* **Kehrmann**.

Thomas, *Pierre*, separation of galactose from dextrose by *Saccharomyces Ludwigii*, A., ii, 344.

Thomas, *Victor*, thallium chlorobromides of the type Tl_4X_6, A., ii, 79.

—— compounds of thallium, A., ii, 322.

—— volumetric estimation of thallium, A., ii, 357.

—— volumetric estimation of iodides in presence of chlorides and bromides, A., ii, 472.

—— thallium. I. Estimation of thallium in the thallous state, A., ii, 531.

Thompson, *J. T.* See *Julius Berend* **Cohen**.

Thoms, *George*, yew wood (*Taxus baccata*, L.), A., ii, 220.

Thoms, *Hermann*, new drying oven, A., ii, 170.

Thoms, *Hermann*, and *R.* **Beckstroem**, constituents of calamus oil, I., A., i, 809.

—— —— calameon from calamus oil, A., i, 810.

Thorausch, *E.*, condensation of 6-phenyl-2-methylpyridine with aldehyde, A., i, 234.

Thorne, *Leonard Temple*, and *Ernest Haynes* **Jeffers**, purification of hydrochloric acid from arsenic, P., **1902**, 118.

Thorpe, *Jocelyn Field*, and *William John* **Young**, the $\gamma\beta$-dimethylglutaric acids, and the separation of *cis* and *trans*-forms of substituted glutaric acid, P., **1902**, 247.

Thorpe, *Thomas Edward*, the fat of the egg of the common fowl, A., ii, 95.

Thorpe, *Thomas Edward*, and *George* **Stubbs**, taxine, T., 874; P., **1902**, 123; discussion, P., 124.

Thovert, *J.*, application of optical observations to the study of diffusion, A., ii, 197, 384.

Thovert, *J.*, retrograde movement of electrolytes, A., ii, 445.

—— study of diffusion, A., ii, 599.

Thresh, *May*, manganiferous nodules in the boulder-clay of Essex, A., ii, 567.

Thurm, *Richard*. See *Robert* **Behrend**.

Thyssen, *Heinrich*. See *Theodor* **Curtius**.

Tichomiroff, *M.* See *Gustav* **Schultz**.

Tickle, *Thomas*, and *John Norman* **Collie**, some hydroxypyrone derivatives, T., 1004; P., **1902**, 170.

Tiesenholt, *Woldemar von*, composition of bleaching powder, A., ii, 562.

Tiffeneau, *Marc*, methoethenylbenzene [β-allylbenzene], A., i, 433.

—— constitution of chlorohydrins, A., i, 449.

—— migration of the phenyl group in styrene and its derivatives, A., i, 666.

Tijmstra, *S.*, *m*-chloro- and *m*-bromo-trinitrophenols, A., i, 717.

Tilden, *William Augustus*, and *Harry* **Burrows**, the constitution of limettin, T., 508; P., **1901**, 216.

—— —— some new derivatives of pinene and other terpenes, P., **1902**, 161.

Tillmans, *J.* See *Josef* **König**.

Tischbein, *Robert*. See *Johannes* **Thiele**.

Tissier, *L.* See *Victor* **Grignard**.

Tissot, *J.*, the effect of decompression on the respiratory exchange of man, A., ii, 570.

Tissot, *J.*, and **Hallion**, physical and chemical phenomena of respiration at high altitudes during a balloon ascent, A., ii, 92.

—— —— the gases in blood at different altitudes during a balloon ascent, A., ii, 150.

Tistschenko, *Wetschiaslaw E.*, new flasks for washing and drying gases, A., ii, 312.

Titherley, *Arthur Walsh*, the action of sodamide and acyl-substituted sodamides on organic esters, T., 1520; P., **1902**, 186.

Tocher, *James F.*, oxidation and estimation of uric acid and urates, A., ii, 706.

Todd, *Charles*, hæmolysin of *Bacillus megatherium*, A., ii, 464.

Tölk, *Rudolf*. See *Josef* **Herzig**.

Tolkatscheff, *S. A.*, action of zinc methyl on alcohols, A., i, 9.

Tollens, *Bernhard*, dehydromucic acid [furfurandicarboxylic acid], A., i, 230.

Tollens, *Bernhard*. See also *Charles A.* **Browne**, *jun*, *L.* **Langer**, and *Peter A.* **Yoder**.

Tolloczko, *Stanislaw*. See *Ludwik* **Bruner**.

Tolman, *L. M.*, use of the Bechi or silver nitrate test with olive oils, A., ii, 436.
—— polarisation of fruits, jellies, jams, and honeys, A., ii, 537.
Tolman, *L. M.*, and *L. S.* **Munson**, refractive indices of salad oils—correction for temperature, A., ii, 709.
Tolson, *Stanley*. See *Otto* **Diels**.
Tommasina, *Thomas*, existence of rays which undergo reflection in the radiations emitted by a mixture of chlorides of radium and of barium, A., ii, 190.
—— absorption of radioactivity by liquids, A., ii, 438.
Topaloff, *Wassil*. See *Joachim* **Biehringer**.
Tordoir, *René*, amino-alcohols containing C_4 and C_5, A., i, 265.
Toriyama, *Nasujirō*. See *Johannes* **Frentzel**.
Torrey, *Henry A.*, action of ethylene dibromide on *p*-nitrosodimethylaniline, A., i, 755.
Tortelli, *Massimo*, and *R.* **Ruggeri**, estimation of arachis oil, A., ii, 539.
Tower, *R. W.* See *Eric H.* **Green**.
Traegel, *Adolf*. See *August* **Michaelis**.
Traube, *Isidor*, theory of the critical phenomena and vaporisation: theory of solution, A., ii, 551.
Travers, *Morris William*. See *Emil* **Burkard**.
Treadwell, *Frederick P.*, use of potassium percarbonate as a substitute for hydrogen peroxide, A., ii, 206.
Trechmann, *Charles O.*, pseudogaylussite, A., ii, 89.
Trenkler, *Hermann*, phonolites of Spitzberg, Bohemia, A., ii, 332.
Trillat, *J. Auguste*, apparatus for studying contact reactions; use of the platinum spiral, A., ii, 602.
Trillat, *J. Auguste*, and **Forestier**, composition of sheep's milk, A., ii, 574.
Trillat, *J. Auguste*. See also *L. Alphonse* **Adrian**.
Tripp, *E.* See *Theodor* **Zincke**.
Tröger, *Julius*, aminolophine, A., i, 189.
Tröger, *Julius*, and *Chr.* **Budde**, aryl sulphonated alcohols and acids, A., i, 775.
Tröger, *Julius*, and *Franz* **Hurdelbrink**, *p*-halogen-arylthiosulphonates, A., i, 274.
Tröger, *Julius*, and *Wilhelm* **Meine**, action of arylamines on benzene-*m*-sulphonic chloride and toluene-2:4-disulphonic chloride, A., i, 537.
—— —— salts of *m*-benzenedithiosulphonic acid, A., i, 599.
Trommsdorff, *R.* See *Otto* **Frank**.
Trotman, *Samuel Russell*, and *Harold* **Peters**, estimation of nitrates in water by the indigo-carmin method, A., ii, 535.
Trowbridge, *John*, spectra arising from the dissociation of water vapour and the presence of dark lines in gaseous spectra, A., ii, 589.
Truchot, *P.*, analysis of crude copper and mattes. Part I., A., ii, 228, 290.
—— electrolytic estimation of vanadium, A., ii, 477.
—— detection of traces of vanadium and its separation from molybdenum, A., ii, 477.
Tschermak, *A.*, human bile, A., ii, 678.
Tschermak, *Armin*, use of helium in spectroscopy, A., ii, 189.
Tschermak, *Gustav*, theory of tourmaline mixtures, A., ii, 91.
Tschernevsky, *D.*, amount of oil in cotton seeds of various origins cultivated in Central Asia, A., ii, 685.
Tscherniac, *Joseph*, [with *A.* **Braun**], chloroimides, A., i, 140.
Tschirch, [*Wilhelm Oswald*] *Alexander*, and *J.* **Cremer**, elemi, A., i, 812.
Tschirch, *Alexander*, and *Leopold van* **Itallie**, oriental storax, A., i, 109.
—— —— American storax, A., i, 110.
—— —— rassamala resin, A., i, 111.
[**Tschirch**, *Alexander*, and] *Eduard* **Keto**, the resins of copaiva balsams, A., i, 166.
Tschirch, *Alexander*, and *M.* **Koch**, the resin of *Dammara orientalis* (Manila copal), A., i, 478.
—— —— *Resina pini* from Siebenbürgen (from *Picea vulgaris*), A., i, 551.
Tschirner, *Fred.* See *Eugen* **Bamberger**.
Tschitschibabin, *Alexei E.*, 2- and 4-benzoylpyridines and their derivatives, A., i, 175.
—— action of benzyl chloride and iodide on pyridine, II., A., i, 395.
—— action of diphenylbromomethane on pyridine, A., i, 395.
—— action of triphenylchloromethane and triphenylbromomethane on pyridine, A., i, 395.
—— reduction products of α- and γ-benzylpyridines, A., i, 826.
Tschugaeff, *L.*, iminoxanthides, a new class of coloured organic compounds, A., i, 604.
—— xanthamides of the terpene series, A., i, 630.
Tucker, *Samuel Auchmuty*, and *Herbert R.* **Moody**, the production of hitherto unknown metallic borides, T., 14; P., **1901**, 129.

Tucker, *Samuel Auchmuty*, and *Herbert R.* **Moody**, production of ethylene from inorganic sources, A., i, 1.
—— —— the reduction of alumina by calcium carbide, A., ii, 21.
Tüllner, *Hermann*. See *Emil* **Fischer**.
Tunnicliffe, *Francis Whittaker*, comparative digestibility of human milk and its substitutes, A., ii, 673.
Tunnicliffe, *Francis Whittaker*, and *Otto* **Rosenheim**, physiological action of some reduced pyrrole derivatives (pyrroline, 1-methylpyrrolidine), A., ii, 681.
Turner, *Alfred John*. See *John Theodore* **Hewitt**.
Turner, *Henry W.*, minerals from the Pacific States, A., ii, 461.
Turner, *Joseph*, aminosulphosalicylic acids, A., i, 290.

U.

Ulbricht, *Richard*, pot experiments on the action of lime and magnesia in burnt lime and marls, A., ii, 581.
Ulffers, *Fr.* See *G.* **Eberle**.
Ullmann, *Carl*, naphthacridine derivatives, A., i, 119.
Ullmann, *Fritz*, naphthacridine derivatives, A., i, 55.
—— preparation of acridinium colouring matters, A., i, 56.
—— 2:2′-dinitrodiphenyl and its derivatives, A., i, 435.
—— naphthacridine colouring matters, A., i, 499, 500.
—— triphenylmethane, A., i, 534.
—— 3-amino-4-methylpheno-β-naphthacridine, A., i, 730.
Ullmann, *Fritz*, and *C.* **Baezner**, acridine syntheses by means of *o*-aminobenzyl alcohol, A., i, 694.
Ullmann, *Fritz*, and *W.* **Borsum**, hexaphenylethane, A., i, 755.
Ullmann, *Fritz*, and *Fortunato* **Consonno**, halogen-substituted dinitronaphthalenes, A., i, 753.
Ullmann, *Fritz*, and *W. Russel* **Forgan**, diphenyl derivatives, A., i, 89.
Ullmann, *Fritz*, and *Irma* **Goldberg**, [derivatives of] hydroxybenzophenone, A., i, 792.
Ullmann, *Fritz*, and *A.* **Marié**, diaminoacridinium compounds, A., i, 182.
—— —— 3′-dimethylamino-[pheno] 1:2-naphthacridine, A., i, 183.
Ullmann, *Fritz*, *N. A.* **Racovitza**, and *Melanie* **Rozenband**, derivatives of phenyl[pheno]naphthacridine, A., i, 240.
Ullmann, *Fritz*, *Melanie* **Rozenband**, *Benno* **Mühlhauser**, and *Ernst* **Grether**, 2-alkylamino-5-phenyl[pheno]naphthacridines, A., i, 240.
Ulmer, *Theodor*, *as*,*o*-diaminodibenzylhydrazine, A., i, 503.
Ulmer, *Theodor*. See also *Max* **Busch**.
Ulpiani, *C.*, and *C.* **Ferretti**, transformation of nitro-derivatives into hydroxamic acids, A., i, 430.
Ulpiani, *C.*, and *G.* **Lelli**, a new proteid from the brain, A., ii, 573.
Ulpiani, *C.*, and *L.* **Sarcoli**, alcoholic fermentation of the must of Indian figs, A., ii, 164.
Ulrich, *Karl*. See *August* **Michaelis**.
Ulrich, *Rudolf*, manurial experiments with barley, A., ii, 525.
Ulrici, *Hellmuth*, excretion of uric acid, A., ii, 36.
Umney, *John C.*, and *C. T.* **Bennett**, Chinese oil of neroli, A., i, 111.
Urbain, *G.*, and *H.* **Lacombe**, new volatile beryllium salt, A., i, 132.
Urban, *K.* See *Karl* **Andrlík**.
Urech, *Walter*. See *Friedrich* **Kehrmann**.
Ury, *Hans*, investigation of fæces, A., ii, 159.
Ustjantzew, *W.*, *rôle* of crude fibre in the nitrogenous metabolism of the animal organism, A., ii, 514.
Utz, *Franz*, determination of the refractive index of ethereal oils, A., ii, 109.
—— "butter oil," A., ii, 366.
—— detection of sesamé oil in chocolate, A., ii, 482.
—— detection of heated milk, A., ii, 539.
—— use of the refractometer in milk analysis, A., ii, 539.
—— [detection of margarine], A., ii, 709.

V.

Vagt, *August*. See *Arthur* **Hantzsch**.
Vahlen, *Ernst*, correlation of the constitution and physiological action of morphine, A., i, 727.
—— morphigenine and epiosine, A., i, 818.
Vail, *Carey E.* See *Frederick J.* **Alway**.
Vallée, *E.* See *A.* **Vila**.
Vallot, *J.*, changes in the hæmoglobin of blood under low atmospheric pressure, A., ii, 92.
Vandam, *L.*, estimation of the soluble acids in butter, A., ii, 541.
Vanderkleed, *C. E.* See *P. N.* **Evans**.

Vañha, *Johann J.*, effect of various mechanical conditions of the same soil on barley, A., ii, 41.
—— influence of single manures on barley, A., ii, 102.
Vanino, *Ludwig*, a new method of preparing trithioformaldehyde, A., i, 744.
—— new gravimetric estimation of formaldehyde, A., ii, 115.
—— barium sulphate as a reagent for colloidal metallic solutions, A., ii, 249.
—— hydrogen arsenide, A., ii, 655.
Vanino, *Ludwig*, and *C.* **Griebel,** action of ammonium carbonate on the arsenic sulphides, A., ii, 48.
Vanino, *Ludwig*, and *Otto* **Hauser,** action of mannitol on bismuth nitrate, A., i, 8.
—— —— double salts of bismuth thiocyanate and potassium thiocyanate, A., i, 14.
—— —— new derivatives of bismuth trichloride and tri-iodide, A., i, 308.
Vanino, *Ludwig*, and *E.* **Seitter,** estimation of formaldehyde, A., ii, 55.
—— —— the literature of volumetric solutions and the substances employed for standardising them, A., ii, 529.
Vater, *Heinrich*, ktypeite and conchite, A., ii, 89.
Vaubel, *Wilhelm*, the configuration of the benzene nucleus, A., i, 361.
—— presence of diazoamino- or diazooxy-compounds in azo-dyes, A., i, 407.
—— indigotin and indigo-red, A., i, 542.
—— molecular weight of liquid water, and Ostwald's dilution law, A., ii, 388.
Vaudin, *L.*, *rôle* of carbohydrates in the utilisation of insoluble salts by the organism, A., ii, 337.
Veillon, *Louis*. See *Robert* **Gnehm.**
Veley, *Victor Herbert*, and *J. J.* **Manley,** some physical properties of nitric acid solutions, A., ii, 135.
—— —— ionic and thermal coefficients of nitric acid, A., ii, 316.
Vendetti, *L.* See *Luigi* **Francesconi.**
Verda, *A.* See *F.* **Seiler.**
Vereinigte Chininfabriken Zimmer & Co., quinine and cinchonidine ethyl carbonates, A., i, 392.
—— acyl derivatives of the cinchona alkaloids, A., i, 485.
Verley, *Albert*, and *Fr.* **Bölsing,** quantitative esterification and estimation of alcohols and phenols, A., ii, 54.
—— —— estimation of eugenol in oil of cloves, A., ii, 54.
Vernon, *Horace Middleton*, differences between diastases, A., i, 513.
Vernon, *Horace Middleton*, conversion of pancreatic zymogens into enzymes, A., ii, 152.
—— pancreatic diastase and its zymogen, A., ii, 336.
Verschaffelt, *E.*, prussic acid in the opening buds of Prunus, A., ii, 523.
Veselý, *O.*, and *Victor*. See *Friedrich* **Kehrmann.**
Vèzes, *Maurice*, and *L.* **Wintrebert,** complex salts of osmium : potassium osmyloxalate, A., i, 587.
Viard, *Georges*, precipitation of cupric chloride and bromide by sulphuric acid, A., ii, 562.
—— precipitation of the chlorides and bromides of cadmium, mercury, and tin by sulphuric acid, A., ii, 606.
Vieth, *Paul*, amount of volatile fatty acids in butter fat, A., ii, 348.
Viewig, *Walther*. See *Hans* **Stobbe.**
Viganò, *G.* See *Attilio* **Purgotti.**
Vignon, *Léo*, and *F.* **Gerin,** reducing action of certain nitro-derivatives, A., i, 9.
—— —— nitro-derivative of pentaerythritol, A., i, 9.
—— —— (derived) nitrates of arabitol and rhamnitol ; constitution of certain ethereal nitrates, A., i, 9.
Vignon, *P.*, formation of negative images by the action of certain vapours, A., ii, 438.
Vila, *A.*, and *E.* **Vallée,** mechanism of the synthesis of leucine, A., i, 662.
Vila, *A.* See also *Alexandre* **Étard.**
Villiger, *Victor*. See *Adolf von* **Baeyer.**
Vincent, *Camille*, presence of tellurium in American silver ingots, A., ii, 205.
Vincent, *J. H.*, general numerical connection between the atomic weights, A., ii, 602.
Vincent, *Swale*, proteids of smooth muscle, A., ii, 340.
Vincent, *Swale*, and *William* **Sheen,** physiological action of extract of animal tissues, A., ii, 519.
Vines, *Sydney H.*, the proteolytic enzyme of Nepenthes, A., ii, 165.
Vires, *J.* See *J. de* **Girard.**
Visser, *L. E. O. de*, purification of gases, A., ii, 65.
—— attempt at a theory of phosphorescence of long duration, especially of the sulphides of the alkaline earths, A., ii, 237.
Vitali, *Dioscoride*, simple lecture experiments to demonstrate the dissociation, on heating, of the chloride and other salts of ammonium, A., ii, 129.

Vitali, *Dioscoride*, excretion of cacodylic acid and its detection in cases of poisoning, A., ii, 161.
—— toxicological detection of mercury, A., ii, 475.
Voegelen, *E.*, germanium hydride, A., ii, 401.
Voegelen, *E.* See also *Arthur* **Hantzsch.**
Voelcker, *John Augustus*, value of condiments in the feeding of bullocks, A., ii, 348.
—— soaking of seed wheat and seed barley in solutions of sodium iodide, bromide, and chloride, A., ii, 349.
—— influence of lithium chloride on wheat and barley, A., ii, 349.
—— hard and soft wheat, A., ii, 349.
—— experiments on weed prevention, A., ii, 350.
Voerman, *G. L.* See *Arnold Frederik* **Holleman.**
Vogt, *Hans*, metabolism in acute gout, A., ii, 160.
Vogt, *Johan H. L.*, separation of titaniferous iron ores in basic igneous rocks, A., ii, 32.
Voigt, *Woldemar*, theory of fluorescence, A., ii, 57.
Voit, *Erwin* [proteid metabolism in inanition], A., ii, 33.
Voit, *Erwin.* See also *Karl Bernhard* **Lehmann.**
Voit, *Fritz.* See *Otto* **Frank.**
Volney, *C. W.*, decomposition of the chlorides of alkali metals, A., ii, 70.
—— decomposition of sodium nitrate by sulphuric acid, A., ii, 394.
Vongerichten, *Eduard*, apiose, a β-hydroxymethylerythrose, A., i, 425.
Vorländer, *Daniel*, relations of hydrogen to unsaturated elements and groups of elements, A., i, 562.
—— the nature of radicles, A., ii, 250, 496.
Vorländer, *Daniel*, and *Bruno* **Drescher**, crystallised indoxyl, A., i, 456.
—— —— diacetylindigo-white, A., i, 458.
—— —— monoacyl derivatives of indoxyl and indoxylic acid, A., i, 720.
Vorländer, *Daniel*, [with *P.* **Hermann**], the carbon double linking and the carbonyl radicle, A., i, 309.
Vorländer, *Daniel*, and *M.* **Kohlmann**, halogen derivatives of dimethyldihydroresorcin, A., i, 610.
Vorländer, *Daniel*, and *Felix* **Meyer**, aromatic diazonium salts and ammoniacal cuprous oxide solution, A., i, 328.
Vorländer, *Daniel*, and *Erich* **Mumme,** *N*-alkyl derivatives of phenylglycine-*o*-carboxylic acid, A., i, 451.
Vorländer, *Daniel*, [with *Erich* **Mumme** and *A.* **Wangerin**], formation of indoxyl from phenylglycine-*o*-carboxylic acid, A., i, 454.
Vorländer, *Daniel*, and *Rudolf von* **Schilling,** phenylglycine-*o*-carboxylic acid, A., i, 94, 451.
Vossen, *Franz.* See *Franz* **Kunckell.**
Voswinckel, *Hugo*, triazan derivatives, A., i, 321.
—— nitrosoacylphenylhydrazines, A., i, 571.
—— azoaldoximes and hydrazidines, A., i, 844.
Vournasos, *Alexander Ch.*, detection and estimation of lactic acid in gastric juice, A., ii, 364.
Vournasos, *Alexander Ch.* See also *Paul* **Thibault.**
Vozárik, *A.*, estimation of guanidine, A., ii, 633.
Vuillemin, *Paul*, effects of the association of amylomyces and a micrococcus, A., ii, 343.
Vuk, *Michael.* See *Eugen* **Bamberger.**
Vulté, *Hermann T.*, and *Harriet Winfield* **Gibson**, metallic soaps from linseed oil and their solubility in certain hydrocarbons, A., ii, 482.
Vyve, *van.* See *Maurice* **Nicloux.**

W.

Wachsmann, *M.* See *Paul* **Grützner.**
Wack, *Ad.* See *Alfred* **Werner.**
Wacker, *Leonhard*, hydroxylamino- and nitroso-anthraquinone, I., A., i, 298.
—— reduction products of the nitronaphthalenes, A., i, 506.
—— replacement of the diazo-group by amidogen, A., i, 698.
Waddell, *John*, oxidation of nitrite by permanganate, A., ii, 451.
Wade, *John*, the constitution of the metallic cyanides as deduced from their synthetic interactions; the constitution of hydrogen cyanide, T., 1596; P., **1902**, 65.
Wadmore, *John Mello.* See *Frederick Daniel* **Chattaway.**
Wagner, *H.* See *Johannes* **Gadamer.**
Wagner, *Paul*, relative manurial value of ammonium salts [and sodium nitrate], A., ii, 43.
—— nitrogenous manuring of vines, A., ii, 284.
Wagner, *Victor*, *s.-op*-dihydroxydiphenylmethane A., i, 448.

Wahl, *André R.*, thiosulphates of aromatic amines, A., i, 145.
Wahl, *André R.* See also *Louis* **Bouveault**.
Wahl, *W.*, hydrated barium silicate, A., ii, 501.
Wakayama, *G.* See *T.* **Saiki**.
Walbaum, *Heinrich*, and *O.* **Hüthig**, cinnamon oil from Ceylon, A., i, 685.
Walden, *Paul*, basic properties of oxygen, A., i, 169, 536.
—— polyvalent oxygen, A., i, 554.
—— inorganic solvent and ionising media, A., ii, 247.
Walden, *Paul*, and *M.* **Centnerszwer**, liquid sulphur dioxide as a solvent, A., ii, 245.
Walder, *Franz.* See *Ernst* **Täuber**.
Walker, *E. W. Ainley*, protective substances of immune sera, A., ii, 163.
—— immunisation against immune serum, A., ii, 280.
Walker, *James*, the state of carbon dioxide in aqueous solution, P., **1902**, 246.
—— qualitative separation of arsenic, antimony and tin, P., **1902**, 246; discussion, P., 246.
—— oxygen bases, A., i, 170.
Walker, *James*, and *William Alexander* **Fyffe**, the hydrates and solubility of barium acetate, P., **1902**, 246; discussion, P., 247.
Walker, *J. W.*, the catalytic racemisation of amygdalin, P., **1902**, 198.
Wallace, *Edwin C.* See *Clifford* **Richardson**.
Wallach, *Otto*, fenchene, A., i, 685.
—— methylcyclohexenes and methylcyclohexenones, A., i, 750.
—— terpenes and ethereal oils; compounds of the thujone series, A., i, 801.
Wallach, *Otto*, [with *Alexander* **Blembel**, *Adolph* **Gilbert**, *Heinrich* **Meyer**, and *Erich* **Mittelstenscheid**], terpenes and ethereal oils, A., i, 79.
Wallach, *Otto*, [with *Theodor* **Böcker**, *Friedrich* **Colmann**, *Ludwig* **Fresenius**, *Richard* **Kösch**, *Otto* **Rahn**, *Arthur* **Scheunert**, *Nicolai A.* **Speranski**, *Johannes* **Thede**, and *Fritz* **Thölke**], new syntheses in the terpene series, A., i, 722.
Wallach, *Otto*, [with *Hans* **Bötticher**, *Nicolai A.* **Speranski**, and *Fritz* **Thölke**], terpenes and the ethereal oils, A., i, 798.
Wallach, *Otto*, and *M.* **Franke**, terpenes and ethereal oils; transformation of cyclic hydrocarbons and ketones, A., i, 806.
Wallach, *Otto*, [with *Ludwig* **Fresenius**], terpenes and ethereal oils; tetrahydrocarvoneisooxime, A., i, 800.
Wallach, *Otto*, and *Otto* **Rahn**, terpenes and ethereal oils; terpineol, A., i, 803.
Wallach, *Otto*, and *Arthur* **Scheunert**, terpenes and ethereal oils; trimethylcyclohexenone, trimethylcyclohexanone, and 3:3-dimethylcyclopentanone, A., i, 805.
Waller, *Augustus D.*, estimation of chloroform vapour in air, A., ii, 631.
Walsh, *Thomas.* See *Alfred* **Senier**.
Walter, *Wilhelm*, condensation products from aromatic aldehydes and malononitrile, A., i, 373.
Walther, *Julius*, synthesis of organic acids, carbohydrates, and albumin-like substances, A., i, 203.
—— synthesis of carbohydrates and the explanation of natural processes based thereon, A., i, 747.
Walther, *Reinhold von*, reactivity of alkyloxy-acids, A., i, 528.
Walther, *Reinhold von*, and *W.* **Raetze**, [derivatives of] *p*-chlorobenzaldehyde, A., i, 466.
Wangerin, *A.* See *Daniel* **Vorländer**.
Wanklyn, *J. Alfred*, physical peculiarities of solutions of gases in liquids, A., ii, 309.
Warburg, *Emil*, spontaneous decomposition of ozone, A., ii, 130.
Ward, *Henry A.*, the Veramin meteorite, A., ii, 148.
—— meteorite from Bacubirito, Mexico, A., ii, 669.
Warin, *J.*, estimation of alkaloids in kola nut and its fluid extracts, A., ii, 483.
Warth, *H.*, mutual action of alumina and ferric oxide at incipient white heat, A., ii, 209.
—— gibbsite from India, A., ii, 328.
Warwick, *A. W.*, and *T. D.* **Kyle**, bismuth assay, A., ii, 231.
Wasserzug, *D.* See *Hans* **Rupe**.
Wassilieff, *Nicolai P.*, action of copper nitrate on benzene, A., i, 361.
Waterhouse, *George B.*, estimation of titanium, A., ii, 476.
Waters, *C. E.*, simple apparatus for demonstrating the manufacture of water gas, A., ii, 255.
Waterstradt, *Fr.*, and *M.* **Willner**, relation of the chemical composition and anatomical character to the value of potato tubers, A., ii, 525.
Watkins, *H. C.* See *Julius O.* **Schlotterbeck**.
Watson, *Thomas L.*, occurrence of uranophane in Georgia, A., ii, 568.

Wauters, *Jules*, abnormal milk, A., ii, 541.
Weber, *Carl O.*, caoutchouc, II., A., i, 552.
Weber, *G.* See *Robert* **Gnehm**.
Weber, *S.*, proteid metabolism in fever, A., ii, 277.
Weber, *Wilhelm.* See *August* **Michaelis**.
Wedekind, *Edgar*, cyclic quaternary ammonium salts, A., i, 233.
—— a new mode of isomerism of asymmetric nitrogen, A., i, 643.
—— behaviour of certain acyl chlorides towards agents which eliminate hydrogen chloride, A., i, 739.
—— nature of radicles, A., i, 739.
—— behaviour of hydrogen chloride and fluoride towards Caro's reagent, A., ii, 498.
Wedekind, *Edgar*, and *J.* **Haeussermann**, behaviour of picric acid towards boiling alkali hydroxides, A., i, 367.
Wedekind, *Edgar*, [and, in part, *F.* **Oberheide**], simple and double dissociation of quaternary ammonium salts, A., i, 277.
Wedekind, *Edgar*, and *Robert* **Oechslen**, tertiary and quaternary tetrahydroisoquinoline bases; a contribution to the stereochemistry of nitrogen, A., i, 118.
—— —— double dissociation, A., i, 392.
Wedekind, *Edgar*, and *Oscar* **Schmidt**, action of diazo-salts on desmotroposantonin and desmotroposantonous acid, A., i, 699.
Weed, *Walter Harvey*, [ankerite from Montana], A., ii, 330.
Wegscheider, *Rudolf*, esterification of unsymmetrical di- and poly-basic acids. IV. Conductivity of some acids and acid esters, A., i, 617.
—— esterification of unsymmetrical di- and poly-basic acids. V. Constitution of some acid esters, A., i, 618.
—— esterification of unsymmetrical di- and poly-basic acids, VI., A., i, 619.
—— criticism of the dyeing-theory of P. D. Zacharias, A., i, 635.
—— simultaneous equilibrium and the relations between thermodynamics and velocity of reaction of homogeneous systems, A., ii, 9.
—— boundaries between polymorphism and isomerism, A., ii, 126.
—— theory of the velocity of chemical reactions, A., ii, 492.
—— saponification of the esters of carboxylic and sulphonic acids, A., ii, 493.
—— influence of constitution on the affinity constants of organic acids, A., ii, 494.
Wegscheider, *Rudolf*, dissociation of dibasic acids, A., ii, 643.
Wegscheider, *Rudolf*, and *Felix* **Kaufler**, allotropy of phosphorus, A., ii, 17.
Wegscheider, *Rudolf*, and *Richard* **Piesen**, esterification of unsymmetrical di- and poly-basic acids. VII. Esterification of 4-hydroxyphthalic acid, A., i, 619.
Wegscheider, *Rudolf*, [and, in part, by *Richard* **Piesen** and *Otto* **Breyer**], esterification of unsymmetrical di- and poly-basic acids. VIII. Esterification of nitroterephthalic acid, II., A., i, 620.
Weibull, *Mats*, calcite crystals from Gräsberg, Sweden, A., ii, 405.
—— barylite and cordierite, A., ii, 408.
Weigert, *Fritz*, trithiodibutyrolactone, A., i, 10.
Weigert, *Fritz.* See also *Emil* **Fischer**, and *Jacobus Henricus van't* **Hoff**.
Weil, *Frédéric*, titration with stannous chloride, A., ii, 231.
Weil, *Lionel.* See *Charles* **Baskerville**.
Weinland, *Ernst*, changes in the carbohydrates in the body of Ascaris; an animal fermentation process, A., ii, 155.
—— action of extracts of *Ascaris lumbricoides*, A., ii, 412.
Weinland, *Ernst*, and *Adolf* **Ritter**, formation of glycogen in Ascaris, A., ii, 677.
Weinland, *Rudolph F.*, and *Fr.* **Schlegelmilch**, double salts of iodine trichloride with chlorides of divalent metals, A., ii, 315.
Weinschenk, *Ernst*, [natron-phlogopite], A., ii, 569.
Weinstock, *Peter.* See *Stanislaus von* **Kostanecki**.
Weisler, *Arthur*, metaphosphates, A., ii, 17.
Weiss, *Emil.* See *August* **Michaelis**.
Weiss, *Karl.* See *Otto* **Fischer**.
Weiss, *L.* See *Wilhelm* **Muthmann**.
Weissenberg, *Hugo*, denitrification, A., ii, 470.
Weissenborn, *A.* See *Oscar* **Doebner**.
Wells, *Horace Lemuel*, generalisation on halogen double salts, A., ii, 11.
Wells, *Horace Lemuel*, and *Samuel Lewis* **Penfield**, new occurrence of sperrylite, A., ii, 267.
Welmans, *Paul*, cocoa-shell powder, A., ii, 372.
Wentzel, *Franz.* See *Friedrich* **Kehrmann**.
Wenzel, *E.*, volume and density changes in liquids due to the absorption of gases, A., ii, 125.

Wenzel, *Franz*, partial hydrolysis of triaminomesitylene, A., i, 190.
Wenzel, *Franz*. See also *Josef* **Herzig**.
Werner, *Alfred*, carboxonium and carbothionium salts, A., i, 50.
—— principal and supplementary valencies and the constitution of ammonium compounds, A., ii, 554.
Werner, *Alfred*, [with *Tobias* **Frey**, *A.* **Grob**, *H.* **Heil**, *Johannes* **Kunz**, *Max* **Kunz**, *Bernh.* **Löwenstein**, *Adolf* **Ney**, *K.* **Rekner**, *Adolf* **Scherrer**, *H.* **Schwabacher**, *Ad.* **Wack**], phenanthrene [sulphonic acids and phenanthrols], A., i, 437.
—— —— phenanthrene, II., A., i, 626.
Werner, *Alfred*, [with *Al.* **Gubser** and **Kalkmann**], constitution of oxonium salts, A., i, 686.
Werner, *Alfred*, and *J.* **Klien**, tetraquodiammino- and diacidodiaquodiammino-chromium salts, A., ii, 210.
Werner, *Emil Alphonse*. See *James Emerson* **Reynolds**.
Wesener, *John A.*, a nitrogen apparatus, A., ii, 426.
West, *Charles Alfred*, phosphorus tetroxide, T., 923; P., **1902**, 138.
Whatmough, *William Henry*, a new method for the determination of the surface tension of liquids, A., ii, 125.
Wheeler, *Henry Lord*, molecular rearrangement of unsymmetrical acylthiocarbamides and acyl-ψ-thiocarbamides into the isomeric symmetrical derivatives, A., i, 444.
Wheeler, *Henry Lord*, and *Alling P.* **Beardsley**, action of phenylhydrazine on acylthiocarbamic and acyliminothiocarbonic esters; pyrro-αβ′-diazole [1:2-4-triazole] derivatives, A., i, 502.
Wheeler, *Henry Lord*, and *George S.* **Jamieson**, thiocyanates and isothiocyanates (thiocarbimides), V., A., i, 762.
Wheeler, *Henry Lord*, and *Treat B.* **Johnson**, some acetyl- and benzoyl-ψ-thiocarbamides, A., i, 26.
—— —— thiocyanates and isothiocyanates [thiocarbimides], A., i, 28, 760.
—— —— benzoylbenzylcarbamide, benzoyl-*p*-tolylcarbamide, and the corresponding ethyl-ψ-carbamides: a correction, A., i, 366.
—— —— molecular rearrangement of thiocyanoacetanilides into labile ψ-thiohydantoins, and the molecular rearrangement of the latter into stable isomerides, A., i, 758.
Wheeler, *Henry Lord*, and *Henry F.* **Merriam**, thiocyanates and isothiocyanates [thiocarbimides], A., i, 537.
Wheeler, *Richard V.* See *William Arthur* **Bone**.
Wheelwright, *E. W.* See *Eugen* **Bamberger**.
Whipple, *G. H.* See *Walter* **Jones**.
White, *Alfred H.*, volumetric estimation of alumina and of free and combined sulphuric acid in alums, A., ii, 476.
White, *George R.* See *Henry Barker* **Hill**.
Whitehorne, *William R.* See *Arthur* **Michael**.
Whiteley, (*Miss*) *Martha Annie*, the oxime of mesoxamide and some allied compounds. Part II. Disubstituted derivatives, P., **1902**, 212.
—— the action of barium hydroxide on dimethylvioluric acid, P., **1902**, 220.
Whitney, *Willis Rodney*, and *J. E.* **Ober**, precipitation of colloids by electrolytes, A., ii, 65.
Whittaker, *Croyden Meredith*. See *Franz* **Sachs**.
Wichelhaus, [*Karl*] *Hermann*, apparatus for experimenting with sulphur trioxide, A., ii, 132.
Widdicombe, *J. H.*, digestion of sucrose, A., ii, 335.
Widman, *Oskar*, desmotropy between acetyl and hydroxyvinyl groups, A., i, 374.
Widmar, *W.*, hydroxycinchotine, A., i, 173.
Widmer, *Benno*. See *Franz* **Feist**.
Wiederhold, *K.* See *Theodor* **Zincke**.
Wielężyński, *Maryan*, derivatives of *p*-aminoazobenzene, A., i, 510.
Wiener, *Hugo*, synthetical formation of uric acid in the animal organism, A., ii, 338.
Wieske, *P.* See *Niclaus* **Gerber**.
Wigner, *John Harrison*. See *Charles Robertshaw* **Marshall**.
Wijk, *H. J. van*, the hydrates of perchloric acid, A., ii, 649.
Wijs, *J. J. A.*, the determination of iodine absorption by means of iodine monochloride, A., ii, 586.
Wikander, *H.* See *E.* **Seybel**.
Wilberg, *E.*, 5:4′-dichloro-2-aminodiphenylamine, A., i, 314.
Wilcox, *Guy Maurice*, optical rotatory power of sucrose dissolved in pyridine, A., i, 83.
—— optical rotatory power of sucrose when dissolved in amines, A., i, 747.
Wilde, *Henry*, classification and atomic weights of neon, argon, krypton, and xenon, A., ii, 393.
Wildermann, *Meyer*, chemical dynamics and statics under the action of light, A., ii, 545.

Wilfarth, *H.*, action of nitrogen in absence of other nutritive substances, A., ii, 526.
Wilfarth, *H.*, *H.* **Römer**, and *G.* **Wimmer**, effect of deficiencies of potassium, phosphoric acid, and nitrogen on sugar production and on the external form of the beetroot, A., ii, 221.
Wilfarth, *H.*, *G.* **Wimmer**, *H.* **Römer**, *E.* **Mayer**, *F.* **Katz**, and *G.* **Geisthoff**, action of potassium on plant-life, A., ii, 623.
Wilkinson, *Edward John.* See *Arthur George* **Perkin.**
Willgerodt, [*Heinrich*] *Conrad* [*Christoph*], and *Emil* **Arnold**, preparation from *p*-nitroaniline of tri-, tetra-, and penta-iodobenzene and allied compounds, A., i, 16.
Willgerodt, *Conrad*, and *Kurt* **Dammann**, derivatives of *p*-isoamylphenyl iodide containing polyvalent iodine, A., i, 19.
Willgerodt, *Conrad*, and *Waldemar* **Ernst**, derivatives of symmetrical diiodonitrobenzene containing polyvalent iodine, A., i, 17.
Willgerodt, *Conrad*, and *Eberhard* **Rampacher**, derivatives of *p*-iodotert. butylbenzene containing polyvalent iodine, A., i, 18.
Williams, *Charles B.*, new apparatus, A., ii, 391.
—— estimation of sulphuric acid in soils, A., ii, 692.
Williams, *David T.*, estimation of vanadium, A., ii, 431.
Willner, *M.* See *Fr.* **Waterstradt.**
Willstätter, *Richard*, betaines, A., i, 266.
—— halogen derivatives of malonic acid, A., i, 342.
—— derivatives of diaminoacetic acid and diaminomalonic acid, A., i, 349.
—— conversion of tropidine into tropine, A., i, 559.
—— betaine aurichloride, A., i, 661.
Willstätter, *Richard*, and *Friedrich* **Ettlinger**, formation of the pyrrolidine ring, A., i, 233.
Willstätter, *Richard*, and *Ernest* **Fourneau**, lupinine, A., i, 557.
Willstätter, *Richard*, and *Walter* **Kahn**, the action of esters of organic acid on tertiary bases, A., i, 662.
Willstätter, *Richard*, and *Rudolf* **Lessing**, *N*-methylpyrrolidine-α_1-α_2-dicarboxylic acid [1-methylpyrrolidine-2:5-dicarboxylic acid], A., i, 561.
Wilms. See **Creydt.**
Wilsmore, *N. T. M.* See *Victor* **Rothmund.**
Wilson, *Charles Richard.* See *Arthur George* **Perkin.**
Wilson, *C. T. R.*, spontaneous ionisation of gases, A., ii, 240.
Wilson, *Harold A.*, laws of electrolysis of the vapours of alkali salt, A., ii, 640.
Wimmer, *G.* See *H.* **Wilfarth.**
Winchell, *Alexander N.*, [chalcopyrite and bornite as furnace products], A., ii, 146.
—— [pyroxene, labradorite and pseudomesolite from Minnesota], A., ii, 462.
Wind, *Cornelis Harm*, an equation for osmotic pressure in concentrated solution, A., ii, 62.
Windisch, *Karl*, fluorine in musts and wines, A., ii, 98, 104.
—— the occurrence of salicylic acid in natural wines, A., ii, 707.
Windisch, *Richard*, sunflower cake, A., ii, 687.
Windsor, *F. N.* See *A. E.* **Wright.**
Winkelmann, *Adolf* [*August*], diffusion of hydrogen through platinum, A., ii, 552.
Winkler, *Ludwig W.*, estimation of chlorine in natural waters, A., ii, 46.
—— estimation of small amounts of hydrogen sulphide in natural waters, A., ii, 223.
—— behaviour of nitric and nitrous acids towards a solution of brucine in sulphuric acid, A., ii, 353.
—— estimation of albuminoid and proteid ammonia, A., ii, 630.
—— estimation of the reducing power of natural waters, A., ii, 701.
Winogradoff, *Alexander*, formation and secretion of chymosin (rennin), A., ii, 36.
Winteler, *F.*, estimation of hydrofluoric acid in aqueous solutions, A., ii, 287.
Winter, *K.* See *A.* **Bömer.**
Winterberg, *Heinrich.* See *Arthur* **Biedl.**
Winternitz, *Friedrich.* See *Karl* **Auwers.**
Winterstein, *Ernst*, method for the separation of organic bases from their phosphotungstic acid precipitates and the behaviour of cystine to phosphotungstic acid, A., ii, 294.
Winterstein, *Ernst*, and *J.* **Hofmann**, the nitrogenous constituents of certain Fungi, A., ii, 622.
Winterstein, *Ernst*, and *J.* **Thöny**, constituents of Emmenthaler cheese, A., ii, 687.
Winterstein, *Ernst.* See also *Ernst* **Schulze.**
Winther, *Chr.*, a simple trough for light filters, A., ii, 437.

Winther, *Chr.*, rotation dispersion of spontaneously active substances, A., ii, 589.
Wintrebert, *L.* See *Maurice* **Vèzes**.
Winzheimer. See *Paul* **Siedler.**
Wirth, *Ernst*, dinitrocarbazole, A., i, 495.
Wislicenus, *Wilhelm*, and *Alfred* **Densch**, ethyl fluoreneoxalate, A., i, 291.
Wislicenus, *Wilhelm*, and *Anton* **Endres**, copper derivative of ethyl oxalacetate, A., i, 423.
—— —— nitration with ethyl nitrate, A., i, 541.
Wislicenus, *Wilhelm*, and *Heinrich* **Körber**, intramolecular migration of acyl groups, A., i, 72.
—— —— transformation of imino-ethers into acid amides, A., i, 211.
—— —— conversion of lactim ethers into lactams, A., i, 533.
Wislicenus *Wilhelm*, and *Willi* **Stoeber**, action of methyl alcohol on salts of weak acids. A., i, 202.
Withers, *W. A.*, and *George S.* **Fraps**, nitrification in different soils, A., ii, 576.
Witter, *Hugo.* See *Eugen* **Bamberger.**
Wöhler, *Lothar.* See *Carl* **Engler.**
Wöhlk, *Alfred*, hydrogen sulphide apparatus for students' laboratories, A., ii, 204.
—— action of bromine and potassium permanganate on citric acid (Stahre's reaction) and detection of citric acid in milk, A., ii, 364.
Wölbling, *F.* See *Carl* **Liebermann.**
Wölfl, *V.* See *Karl A.* **Hofmann.**
Wogrinz, *Alfred*, estimation of uric acid by Jolles' process, A., ii, 706.
Wogrinz, *Alfred.* See also *Sigmund* **Fränkel.**
Wohl, *Alfred*, and *Franz* **Frank**, the acetal of crotonaldehyde and its conversion into methyltriose, A., i, 532.
Wohl, *Alfred*, and *Otto* **Ruff**, preparation of sulphuryl chloride, A., ii, 604.
Wohl, *Alfred*, and *Hans* **Schiff**, derivatives of phenyltriazan, A., i, 578.
Wohlfahrt, *Th.*, electrochemical reduction of 2:2′-dinitrodiphenyl to phenazone and derivatives of the latter, A., i, 509.
Wohlgemuth, *Julius*, [α-glucoheptose], A., i, 712.
—— behaviour of α-glucoheptose in the animal body, A., ii, 616.
Wohlgemuth, *Julius.* See also *Carl* **Neuberg.**
Wohlmuth, *Jac.*, amount of iodine in sheep's thyroid, A., ii, 274.
Wojczyński, *M.* See *Augustin* **Wróblewski.**
Wolf, *Hans*, conductivity of solutions of mixed electrolytes, A., ii, 299.
Wolff, *H.* See *Carl* **Neuberg.**
Wolff, *John E.*, and *Charles* **Palache**, apatite from Minot, Maine, A., ii, 330.
Wolff, *Ludwig*, [with *Max* **Gabler**, and *Fritz* **Heyl**], condensation products of tetronic acid, A., i, 676.
Wolff, *Ludwig Karl*, and *Andreas* **Smits**, globulin as alkali proteid, A., i, 67.
Wolfs, *H.* See *C.* **Beger**, and *Paul* **Behrend.**
Wollers, *Georg*, and *Robert* **Behrend**, diazoisonitrosomethyluracil and 4-aminopyrazole, A., i, 843.
Woodforde, *Alfred William George.* See *John Theodore* **Hewitt.**
Woodman, *A. G.*, the significance of phosphates in natural waters, A., ii, 702.
Woodruff, *I. O.*, and *William J.* **Gies**, toxicology of selenium and its compounds, A., ii, 278.
Worms, *W. W.*, crystalline albumin from the white of crows' eggs, A., i, 65.
Woy, [*Ernst Friedrich*] *Rudolf*, *rôle* of phosphoric acid in wine analysis, A., ii, 105.
—— estimation of nitric acid in water, A., ii, 694.
Wright, *A. E.*, and *F. N.* **Windsor**, bactericidal effects of human blood, A., ii, 672.
Wright, *Ralph G.* See *Robert* **Gnehm.**
Wróblewski, *Augustin*, *Boleslaw* **Bednarski**, and *M.* **Wojczyński**, the action of enzymes on each other, A., i, 196.
Wulff, *Georg*, volume relations and optical characters of isomorphous mixtures, A., ii, 444.
Wulff, *Georg.* See also *Martin* **Freund.**
Wuth, *Berthold*, behaviour of silver haloids with organic amino-bases, A., i, 594.
Wycheslavtzeff, *Arsenia*, calorimetric determination of the form of pressure melting point curves, A., ii, 381.
Wyk. See **Wijk.**
Wyrouboff, *Grégoire N.*, colloids, A., ii, 128.
—— constitution of the compounds of chromium, A., ii, 565, 609.
—— separation of beryllium, A., ii, 605.

Y.

Yates, J. See *William Henry* **Perkin**, *jun.*
Yoder, *Peter A.*, and *Bernhard* **Tollens**, furfurandicarboxylic acid; its preparation, salts, and esters, A., i, 49.

York, *H. J.* See *F. J.* **Pond**.
Yoshitake, *E.* See *Arthur George* **Perkin**.
Young, *Stewart Woodford*, inhibition of chemical reactions by foreign substances, I., A., ii, 387.
Young, *Sydney*, the preparation of absolute alcohol from strong spirit, T., 707; P., **1902**, 104.
—— the vapour pressures and boiling points of mixed liquids. Part I. and III., T., 768; P., **1902**, 107, 218.
—— correction of the boiling points of liquids from observed to normal pressure, T., 777; P., **1902**, 108.
—— on mixtures of constant boiling point, P., **1902**, 215.
Young, *Sydney*, and (*Miss*) *Emily C.* **Fortey**, the properties of mixtures of the lower alcohols with water, T., 717; P., **1902**, 105.
—— —— the properties of mixtures of the lower alcohols with benzene and with benzene and water, T., 739; P., **1902**, 105.
—— —— fractional distillation as a method of quantitative analysis, T., 752; P., **1902**, 106.
—— —— vapour pressures and specific volumes of isopropyl isobutyrate, T., 783; P., **1902**, 108; discussion, P., 109.
—— —— the vapour pressures and boiling points of mixed liquids. Part II., P., **1902**, 216.
Young, *William John*. See *Arthur* **Harden**, and *Jocelyn Field* **Thorpe**.

Z.

Zacharias, *P. D.*, theory of the dyeing process, A., i, 635, 725.
—— nature and properties of colloids, A., ii, 249.
Zaky, *Aly*. See *Alexandre* **Desgrez**.
Zaleski, *J.* See *W.* **Horodyński**.
Zalewski, *W.*, conditions of proteid formation in plants, A., ii, 348.
Zaloziecki, *Roman*, and *G.* **Frasch**, Galician petroleum. I. Nitration of the isohexane fraction, A., i, 197.
Zamanos, *Démétrius*. See *Ernest* **Charon**.
Zambonini, *Ferruccio*, sodalite from Viterbo, A., ii, 30.
—— anorthite from S. Martino, Viterbo, A., ii, 213.
—— wavellite from Manziana (Province of Rome), A., ii, 269.
—— glaucophane from Chateyroux (Gressoney Valley), A., ii, 332.
Zdarek, *Emil*, cerebrospinal fluid, A., ii, 518.
—— volumetric estimation of thymol, A., ii, 536.
Zega, *Alexander*, edible fungi, A., ii, 349.
Zeisel, *Simon*, and *R.* **Fanto**, estimation of glycerol, A., ii, 111, 585.
Zeitschel, *Otto*. See *Albert* **Hesse**.
Zelikoff, *J.* See *Nicolai D.* **Zelinsky**.
Zelinsky, *Nicolai D.*, isomerisation of dimethylcyclopropylcarbinol, A., i, 70.
—— attempted synthesis of the camphor ring as a contribution to the tension theory, A., i, 106.
—— behaviour of diketones towards organo-magnesium compounds, A., i, 593.
—— optically active hydrocarbons of the cyclopentene and cyclohexene series, A., i, 597.
—— optically active saturated cyclic hydrocarbons (active naphthenes), A., i, 665.
—— a direct synthesis of hexahydroaromatic acids and polymethylenecarboxylic acids in general, A., i, 675.
—— syntheses of benzoic acid and phenylacetic acid as lecture experiments, A., i, 675.
Zelinsky, *Nicolai D.*, and *D.* **Alexandroff**, 1-methylcyclohexane-3-malonic acid and 1-methylcyclohexane-3-acetic acid, A., i, 74.
Zelinsky, *Nicolai D.*, [and *Johannes* **Gutt**], syntheses of cyclic tertiary alcohols by means of organo-magnesium compounds, A., i, 70.
—— —— replacement of zinc by magnesium in certain synthetical reactions, A., i, 585.
Zelinsky, *Nicolai D.*, and *Nicolaus* **Lepeschkin**, dimethylhexamethylene from camphoric acid, A., i, 143.
Zelinsky, *Nicolai D.*, and *A.* **Moser**, ring formation by means of magnesium organic compounds; a complete synthesis of methylcyclopentane, A., i, 670.
Zelinsky, *Nicolai D.*, and *S.* **Namjetkin**, synthesis of 1-methyl-1-cyclopentanol, A., i, 672.
Zelinsky, *Nicolai D.*, and *Michael* **Roschdestwensky**, a methylcyclohexanose, A., i, 674.
Zelinsky, *Nicolai D.*, and *J.* **Zelikoff**, transformation of alcohols into unsaturated hydrocarbons by the action of oxalic acid, A., i, 2.
Zelizko, *J. V.*, felspar from Southern Bohemia, A., ii, 332.

Zeltner, *I.*, synthesis of β-hydroxy-β-*p*-tolyl-αα-dimethylpropionic acid, A., i, 371.
Zeisel, *Simon*, and *Milan Josef* **Stritar**, a new method for the estimation of cellulose, A., ii, 363.
Zembruski, *Kasimir von*. See *Hans* **Rupe**.
Zemjatschensky, *Petr A.*, emerald and beryl from the Uralian Emerald Mines, A., ii, 29.
—— colourless chlorite from Aj River, Zlatoust, A., ii, 147.
Zengelis, *Constantin*, retinite from Thessaly, A., ii, 28.
Zerban, *F.* See *Karl A.* **Hofmann**.
Zernoff, *Wladimir*, synthesis of dimethylsuccinic acid under the action of light, A., i, 204.
—— synthesis of dimethylsuccinic acid in sunlight, A., i, 343.
Zeynek, *Richard von*, a blue pigment from *Crenilabrus pavo*, A., i, 168.
—— crystallised cyanohæmoglobin, A., i, 195.
—— compounds of arsenic in the human liver, A., ii, 161.
Ziegenbein, *H.* See *Johannes* **Gadamer**.
Ziegler, *Friedrich*. See *August* **Michaelis**.
Zielstorff, *W.* See *C.* **Beger**.
Ziemke, *Ernst*, forensic detection of blood by means of alkaline hæmatoporphyrin, A., ii, 296.
Zimmer & Co. See **Vereinigte Chininfabriken Zimmer & Co**.
Zimmermann, *M. R.* See *Alwin* **Goldberg**.
Zimmermann, *R.* See *Richard* **Möhlau**.
Zincke, [*Ernst Carl*] *Theodor*, action of bromine and chlorine on phenols: substitution products: ψ-bromides and ψ-chlorides, A., i, 282.
Zincke, *Theodor*, and *Fr.* **Leisse**, action of bromine on *p*-hydroxycinnamic acid; tetrabromo-*p*-hydroxycinnamic acid; brominated *p*-vinyl- and *p*-ethyl-phenol derivatives, A., i, 615.
Zincke, *Theodor*, *O.* **Siebert**, and *H.* **Reinbach**, action of bromine and chlorine on phenols, substitution products, ψ-bromides, and ψ-chlorides, A., i, 605.
Zincke, *Theodor*, and *E.* **Tripp**, tribromo-4-hydroxy-*m*-xylene ψ-dibromide, A., i, 285.
Zincke, *Theodor*, and *K.* **Wiederhold**, action of bromine on tetrachloro-*p*-cresol: tetrachloro-*p*-cresol ψ-bromide and its transformation products, A., i, 282.
—— —— action of bromine on *p*-cresol: substitution products and ψ-bromides of *p*-cresol, A., i, 284.
Zink, *Josef*, condensation of naphthaldehydic acid [8-aldehydonaphthoic acid] with acetone and acetophenone, A., i, 34.
—— naphthaldehydic acid, A., i, 159.
Zirngiebl, *H.*, relation between crystalline form and molecular structure, A., ii, 496.
Zöpfchen, precipitation of sulphuric acid in native potassium salts, A., ii, 287.
Zoeppritz, *Rudolf*. See *Otto* **Dimroth**.
Zoethout, *W. D.*, effects of potassium and calcium ions on striated muscle, A., ii, 414.
—— contact irritability of muscles, A., ii, 465.
Zopf, *Wilhelm*, compounds from lichens, IX. and X., A., i, 465, 788.
Zschoche, *R.* See *Hans* **Labhardt**.
Zsigmondy, *Richard*, the red solution of gold as a reagent for colloids, A., ii, 188.
Zuboff, *P.*, heats of combustion of cyclic compounds. I., A., i, 144.
Zuboff, *P.* See also *Wladimir B.* **Markownikoff**.
Zumbusch, *Leo von*, the bile of the Isabella bear, A., ii, 573.
Zumbusch, *Leo von*. See also *Franz* **Kunckell**.
Zuntz, *Nathan*, and *O. H.* **Hagemann**, [metabolism in horses], A., ii, 272.
Zunz, *E.*, peptic digestion, A., ii, 672.
Zwerger, *Rud.* See *Zdenko Hanns* **Skraup**.

INDEX OF SUBJECTS.

ABSTRACTS. 1902. Parts I. & II.

(Marked A. i and A. ii respectively); and also to Transactions, 1902 (marked T.); and to Proceedings, 1901—1902; Nos. 241 to 258, Nov., 1901—Dec., 1902 (marked P.).

A.

Abrin (HAUSMANN), A., i, 408.
action of erepsin and intestinal juice on (SIEBER and SCHUMOFF-SIMONOWSKI), A., ii, 680.

Absorption, intestinal (REID), A., ii, 412.
in Octopods, mechanism of (COHNHEIM), A., ii, 572.
of carbohydrates by the rectum (REACH), A., ii, 413.
of fat (LEHMANN and VOIT), A., ii, 155; (PFLÜGER), A., ii, 155, 273.
of finely divided metallic mercury (FRIEDENTHAL), A., ii, 93.
of the nitrogen from oatmeal by the dog (NOËL-PATON), A., ii, 336.
of proteid in Octopods (COHNHEIM), A., ii, 572.
of simple stereoisomeric sugars in the small intestine (NAGANO), A., ii, 516.

Absorption, relations of, to analytical and agricultural chemistry (SCHALLER), A., ii, 226.

Acaci Caatechu, constituents of (PERKIN and YOSHITAKE), T., 1160; P., **1902**, 139.

Accumulators. See Electrochemistry.

Acer Pseudoplatanus, occurrence of tannin, starch, and sugar in first-year plants of (HÄMMERLE), A., ii, 347.

Acet-. See also Aceto-, Acetyl-, and under the Parent Substance.

Acetaldehyde, action of magnesium amalgam on (MEUNIER), A., i, 335.
condensation of, with 4-methylpyridinecarboxylic acid (KOENIGS), A., i, 180.

Acetaldehyde, 4-*mono*-, 2:4-*di*-, 2:4:6-*tri*chlorophenylhydrazone, nitro- (BAMBERGER and GROB; BAMBERGER and FREI), A., i, 248.

Acetaldehyde-ββ-disulphonic acid (DELÉPINE), A., i, 133.

Acetals, formation of, from hydroxynitriles (STOLLÉ), A., i, 468.

Acetamide, *tri*chloro- (CLERMONT), A., i, 71.

Acetanilide, action of thioacetic acid on (WHEELER and JOHNSON), A., i, 759.

Acetanilide, halogen derivatives, velocity of intramolecular rearrangement in (BLANKSMA), A., ii, 646.
s-trihalogen derivatives, nitration of (ORTON), T., 500; P., **1902**, 73.
2:3:4:6-*tetra*bromo-, 2:3:4-*tri*bromo-6-nitro-, and *s*-chlorobromonitro-derivatives (ORTON), T., 497; P., **1902**, 59.
isomeric chloro-derivatives, from acetylchloroaminobenzenes (CHATTAWAY and ORTON), P., **1902**, 200.
2:4- and 4:2-chlorobromo- (CHATTAWAY and WADMORE), T., 987; P., **1902**, 173.
iodo-derivatives of (WILLGERODT and ARNOLD), A., i, 16.

Acetanilides, thiocyano-, molecular rearrangement of, into labile ψ-thiohydantoins (WHEELER and JOHNSON), A., i, 758.

Acetic acid, dissociation and molecular complexity of, in chloroform solution (DAWSON), T., 521; P., **1902**, 69.
compound of, with nitric acid (PICTET and GENEQUAND), A., i, 584.
estimation of, in lead accumulators (FORMENTI), A., ii, 363.

Acetic acid, barium salt, solubility and hydrates of (WALKER and FYFFE), P., **1902**, 246.
basic beryllium salt (URBAIN and LACOMBE), A., i, 132.

Acetic acid, cupric salt, action of heat on (ANGEL and HARCOURT), T., 1385; P., **1902**, 185.
mercury salts, action of, on acetylene (BURKARD and TRAVERS), T., 1270; P., **1902**, 183.
mercuric salt, oxidations with (BALBIANO and PAOLINI), A., i, 808.
Acetic acid, ethyl ester, action of sodamide and its acyl derivatives on (TITHERLEY), T., 1527; P., **1902**, 187.
nitrolic acid of, synthesis of (JOVITSCHITSCH), A., i, 202.
2:4-*di*nitrobenzyl ester (COHN and FRIEDLÄNDER), A., i, 376, 791.
nitro*iso*hexyl ester (MOUSSET), A., i, 254.
Acetic acid, amino-. See Glycine.
*di*amino-, derivatives of (WILLSTÄTTER), A., i, 349.
bromo-, ethyl ester, condensation of, with *cyclo*pentanone and β-methyl-*cyclo*pentanone (SPERANSKI), A., i, 341.
bromo- and chloro-, decomposition of, by various bases in solution in different alcohols (SCHWEINBERGER), A., ii, 126.
chloro-, action of, on *p*-hydroxyazobenzene (MAI and SCHWABACHER), A., i, 126.
*tri*chloro- (CLERMONT), A., i, 71.
chloroimino-, ethyl ester, synthesis of (JOVITSCHITSCH), A., i, 202.
cyano-, ethyl ester, condensation of, with aldehydes (GUARESCHI), A., i, 819.
condensation of, with carbon tetrachloride (DIMROTH), A., i, 740.
action of, on diazonium and tetrazonium chlorides (FAVREL), A., i, 329.
action of ethyl bromotrimethylsuccinate on the sodium derivative of (BONE and SPRANKLING), T., 52; P., **1901**, 243.
action of halogens and ethyl bromocyanoacetate on (ERRERA and PERCIABOSCO), A., i, 116.
interaction of, with hydramides (BECCARI), A., i, 375.
*di*fluoro-, and its barium salt (SWARTS), A., i, 130.
iodo-, ethyl ester, and zinc, condensations with (TÉTRY), A., i, 584.
thiol-, triphenylmethyl ester (WHEELER), A., i, 29.
Acetic anhydride, preparation of (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 418.
Acetic anhydride, action of zinc chloride on (MONTANARI), A., i, 200.
Acetic bromide, *tri*bromo- (BILTZ), A., i, 417.
Acetic chloride, *tri*chloro- (BILTZ), A., i, 417.
preparation of (DELACRE), A., i, 527.
Acetic *per*oxide, formation, decomposition and germicidal action of (FREER and NOVY), A., i, 369.
Aceto-. See also Acet-, Acetyl-, and under the Parent Substance.
Acetoacetamide, and its copper salt, phenylhydrazone, and phenylazo-, derivative of (CLAISEN and MEYER), A., i, 207.
Acetoacetic acid, detection of, in urine (ALLARD), A., ii, 363.
and its ethyl ester, action of diazobenzene on (BAMBERGER and WHEELWRIGHT), A., i, 406.
Acetoacetic acid, ethyl ester, and its derivatives (v. MEYER, FRIESSNER, and v. FINDEISEN), A., i, 657.
and methyl or ethyl iodide, action of zinc on a mixture of (REFORMATSKY and LUKASCHEWITSCH), A., i, 10.
oxime of, synthesis of (JOVITSCHITSCH), A., i, 202.
phenylacetylhydrazide of (BOETZELEN), A., i, 58.
pyromucylhydrazide of (CURTIUS and LEIMBACH), A., i, 302.
α-thiophencarboxylic hydrazide of (CURTIUS and THYSSEN), A., i, 305.
menthyl ester, and its copper, benzoyl, *p*-nitrophenylhydrazide, and semicarbazide derivatives (LAPWORTH and HANN), T., 1501; P., **1902**, 145.
methyl and ethyl esters, sodium derivative, action of acid chlorides on (BONGERT), A., i, 73.
*iso*propyl ester (MOUREU and DELANGE), A., i, 164.
Acetoacetic acid, β-chloro-, ethyl ester, action of, on diazo-chlorides (FAVREL), A., i, 644.
Acetoacetic acid series, acid and ketone decomposition in the (KNOEVENAGEL and FRIES), A., i, 226.
Aceto-ψ-cumidide, chloro- (KUHARA and CHIKASHIGÉ), A., i, 227.
Acetol. See Acetylcarbinol.
Acetone, from crystallised egg-albumin (ORGLER), A., i, 407.
formation of, from gelatin (NEUBERG and BLUMENTHAL), A., ii, 516.
vapour pressure in the system, water, phenol, and (SCHREINEMAKERS), A., ii, 243, 380, 599.

Acetone, condensation of, with 8-aldehydonaphthoic acid (ZINK), A., i, 34.
condensation products of, with 1:8-naphthylenediamine and its derivatives (BADISCHE ANILIN- & SODA-FABRIK), A., i, 124.
action of, on nitro-opianic acid (BOOK), A., i, 464.
action of sodamide on (TITHERLEY), T., 1526; P., **1902**, 186; (FREUND and SPEYER), A., i, 584.
physiological action of (ARCHANGELSKY), A., ii, 36.
Acetone, bromo- and chloro-, electrolytic formation of (RICHARD), A., i, 133.
nitro-, preparation of, and its salts (HARRIES), A., i, 185.
Acetone-β-naphthylcarbamic acid hydrazone (BORSCHE), A., i, 186.
Acetone-αγγ-trisulphonic acid (DELÉPINE), A., i, 133.
Acetonitrile, latent heat of vaporisation of (KAHLENBERG), A., ii, 195.
Acetonitrile, amino- (KLAGES), A., i, 354.
Acetonylacetone, interaction of, with formaldehyde (KNORR and RABE), A., i, 13.
Acetonylacetonedisemicarbazone (POSNER), A., i, 83.
Acetonylacetonephenylhydrazone, bimolecular, and its isomeride (SMITH and MCCOY), A., i, 645.
Acetonylacetylacetone and its copper derivative (MARCH), A., i, 707.
Acetonylnaphthalimidine and its oxime (ZINK), A., i, 34.
Acetonylnitromeconin, constitution of (BOOK), A., i, 464.
Acetonyltri-*p*-tolylarsenic compounds (MICHAELIS and KRAHE), A., i, 521.
Acetophenone, condensation of, with 8-aldehydonaphthoic acid (ZINK), A., i, 34.
derivatives (RUPE, BRAUN, and V. ZEMBRUSKI), A., i, 40.
Acetophenone, amino- and nitro-derivatives of (CAMPS), A., i, 294.
3:5-*di*amino- and 3:5-*di*nitro- (BEREND and HEYMANN), A., i, 470.
p-bromo- and *p*-chloro-ω-bromo-, action of alcoholic ammonia on (COLLET), A., i, 39.
Acetophenonebenzylmercaptal, *m*-nitro- (POSNER), A., i, 623.
Acetophenonedibenzylsulphone (POSNER), A., i, 622.
Acetophenonedi-benzyl-, -ethyl-, and -phenyl-sulphones, *m*-amino- and *m*- and *p*-nitro- (POSNER), A., i, 623.
Acetophenoneoxime, halogen derivatives of (COLLET), A., i, 625.
Acetophenone-phenyl- and **-*o*-tolylcarbamic acids**, hydrazones of (BORSCHE), A., i, 186.
Acetophenonesemicarbazone (BORSCHE), A., i, 186.
Aceto-*o*- and **-*p*-toluidides**, thiocyano-, and the action of thioacetic acid on (WHEELER and JOHNSON), A., i, 759.
Aceto-*m*-toluidide, chloro- (KUHARA and CHIKASHIGÉ), A., i, 227.
constitution of the products of nitration of (COHEN and DAKIN), P., **1902**, 240.
o-**Acetoxyazoxybenzene** (BAMBERGER), A., i, 505.
Acetoxybenzylidene bromides, *m*- and *p*- (RICHTER), A., i, 163.
γ-Acetoxy-βγ-diphenyl-Δ$^{\alpha}$-crotono-lactone and **-α-benzylidenebutyrolactone** (THIELE and STRAUS), A., i, 154.
o-**Acetoxyindanone**, 2-bromo- (MINIAT), A., i, 296.
Aceto-*as*-*m*-xylidide, chloro- (KUHARA and CHIKASHIGÉ), A., i, 227.
Acetoxyphenanthrenes, 2- and 3-, and their quinones (PSCHORR and KLEIN), A., i, 97.
7-Acetoxy-2-phenyl-4-benzyl-1:4-benzopyranol (BÜLOW and GROTOWSKY), A., i, 485.
γ-Acetoxy-α-phenyl-γ-benzylbutyrolactone (THIELE and STRAUS), A., i, 159.
α-Acetoxy-γ-phenylbutyronitrile, **β-***mono*-, and **βγ-***di*-bromo- (THIELE and SALZBERGER), A., i, 157.
α-Acetoxy-γ-phenylcrotonic acid (THIELE and SALZBERGER), A., i, 157.
7-Acetoxy-2-phenyl-1:4-dihydrobenzopyran (BÜLOW and V. SICHERER), A., i, 113.
Acetyl-. See also Aceto-, and under the Parent Substance.
Acetyl phosphide, *di*chloro- (EVANS and VANDERKLEED), A., i, 273.
Acetylacetone and its substituted derivatives, action of, on diazonium and tetra-azonium chlorides (FAVREL), A., i, 507.
aluminium, ferric, and lanthanum derivatives (HANTZSCH and DESCH), A., i, 708.
sodium derivative, action of halogen esters and ketones on (MARCH), A., i, 706.
Acetylacetone, amino-, action of ethyl malonate and malonamide on (KNOEVENAGEL and CREMER), A., i, 640.
Acetyl-*m*-aminoacetophenone and its oxime (RUPE, BRAUN, and V. ZEMBRUSKI), A., i, 40.

Acetyl-*p*-aminoacetophenone from diacetanilide (CHATTAWAY), P., **1902**, 173.

4-Acetylaminophenol, 2:3:6-*tri*bromo- and 6-bromo-2-nitro- (ROBERTSON), T., 1478; P., **1902**, 190.

3-Acetylaminophenonaphthacridine and its ethyl bromide (ULLMANN), A., i, 56.

Acetylation of aromatic amines (PAWLEWSKI), A., i, 209.

Acetylbenzamidephenylhydrazone hydrate (BUHLMANN and EINHORN), A., i, 95.

Acetylbromoamide, preparation of (BEHREND and SCHREIBER), A., i, 14.

Acetyl-*p*-bromo- and **-*p*-chloro-anilides** and their halogen derivatives (COLLET), A., i, 625.

Acetylbromodextrose, preparation of (MOLL VAN CHARANTE), A., i, 426.

Acetyl-*o*-bromophenyl nitrogen chloride (CHATTAWAY and WADMORE), T., 987; P., **1902**, 174.

δ-Acetylbutyl iodide (ZELINSKY and MOSER), A., i, 670.

Acetylcarbinol (*acetol*), supposed preparation of (SIMONCINI), A., i, 198.

***p*-Acetylchloroaminoazobenzene** (CHATTAWAY), T., 982; P., **1902**, 174.

Acetylchloroaminobenzenes, transformation of, into the isomeric chloroacetanilides (CHATTAWAY and ORTON), P., **1902**, 200.

Acetylchloroamino-2:6-*di*bromo-4-nitro-, and **-2:4:6-** and **-2:6:4-chlorobromonitro-benzenes** (ORTON), T., 497; P., **1902**, 59.

Acetylchloroamino-2:4:6-*tri*bromo-3-nitro- and **-4-chloro-2:6-*di*bromo-3-nitrobenzenes** (ORTON), T., 503; P., **1902**, 74.

Acetyl-*o*-chlorophenyl nitrogen bromide (CHATTAWAY and WADMORE), T., 987; P., **1902**, 174.

Acetylcochenillic acid, and its methyl esters, anhydrides and acetic anhydride (LIEBERMANN and LINDENBAUM), A., i, 787.

Acetylcoumarin (WIDMAN), A., i, 374.

Acetyldimethylamide, *di*bromo- (WILLSTÄTTER), A., i, 350.

Acetyl-1:1-dimethyl*cyclo*hexanones-3, 1- and 4- (LESER), A., i, 262.

Acetylene, electrochemical studies with (BILLITZER), A., ii, 439.
electrolysis of (BILLITZER), A., ii, 593.
heat of combustion and of dissociation of (MIXTER), A., ii, 60.
decomposition of, during its combustion (GAUD), A., i, 253.
acid nature of (BILLITZER), A., i, 525.

Acetylene, action of, on the acetates of mercury (BURKARD and TRAVERS), T., 1270; P., **1902**, 183.
action of oxidising agents on (BASCHIERI), A., i, 197.
new reactions of (SANDMAN), A., i, 581.

Acetylenetriphenyltriamine, preparation of (SABANÉEFF, RAKOWSKY, and PROSIN), A., i, 604.

Acetylenoid metallic radicles (BERTHELOT), A., i, 208.

***p*-Acetylethylbenzene**, oxime of (KLAGES), A., i, 612.

Acetyl-mono- and **-di-glucosamines** (FRÄNKEL and KELLY), A., i, 479.

Acetylhydroxamic acid, ferric salt (HANTZSCH and DESCH), A., i, 708.

Acetyl-*m*-hydroxyphenyl-*p*-tolylamine and its ethyl ether and **-sulphonic acids** (GNEHM and VEILLON), A., i, 286.

Acetylides, electrolysis of (BILLITZER), A., ii, 593.

***N*-Acetylindoxylic acid**, salts (VORLÄNDER and DRESCHER), A., i, 720.
diethyl ester (VORLÄNDER, MUMME, and WANGERIN), A., i, 455.
methyl and ethyl esters (FARBWERK MÜHLHEIM VORM. A. LEONHARDT & CO.), A., i, 456.

Acetylionone (HAARMANN & REIMER), A., i, 471.

Acetylmesitylene, compounds of, with magnesium ethiodide (KLAGES), A., i, 666.

Acetylmethylanilide, chloro- (KUHARA and CHIKASHIGÉ), A., i, 227.

Acetylmethylanthranilic acid (SCHULTZ and FLACHSLÄNDER), A., i, 778.

γ-Acetyl-β-methylbutyric acid, and its ethyl ester (KNOEVENAGEL and BRUNSWIG), A., i, 641.

γ-Acetyl-γ-methylbutyric acid, and its ethyl ester and semicarbazone (MARCH), A., i, 707.

Acetylmethylene-*p*-phenylenediamine (ULLMANN), A., i, 119.

Acetylmethylheptanone (LESER), A., i, 261.

Acetylmethylheptenone, and the action of sulphuric acid on (LESER), A., i, 262.

5-Acetyl-4-methylpyrazole-3-carboxylic acid and its salts, ethyl ester and oxime (KLAGES), A., i, 496.

5-Acetyl-4-methylpyrazoline-3:5-dicarboxylic acid, methyl ester (BUCHNER and SCHRÖDER), A., i, 319.

2-Acetyl-3-methylquinoxaline and its oxime, phenylhydrazone, *p*-nitrophenylhydrazone and semicarbazone (SACHS and RÖHMER), A., i, 837.

α-Acetyl-γ-phenylacetoacetic acid, ethyl ester and copper salt (BÜLOW and HAILER), A., i, 326.

Acetylphenylbenzylidenetriazan (WOHL and SCHIFF), A., i, 578.

γ-Acetyl-γ-phenylbutyrolactone-β-carboxylic acid and its barium salt and semicarbazone (STOBBE and NIEDENZU), A., i, 460.

***o*-Acetylphenylcarbamic acid,** ethyl ester (CAMPS), A., i, 178.

Acetylphenylhydrazine, action of formaldehyde on (GOLDSCHMIDT), A., i, 716.

nitroso- (WOHL and SCHIFF), A., i, 578.

Acetylphenylhydroxylamine (BAMBERGER and DESTRAZ), A., i, 539.

Acetylphenylmalonamic acid, ethyl ester (CAMPS), A., i, 397.

4-Acetyl-2-phenyl-5-methylfurfuran and its oxime and semicarbazone (MARCH), A., i, 484.

4-Acetyl-2-phenyl-5-methylpyrrole (MARCH), A., i, 484.

5-Acetyl-4-phenylpyrazoline-3:5-dicarboxylic acid, methyl ester and its phenylhydrazone (BUCHNER and SCHRÖDER), A., i, 319.

2-Acetyl-3-phenylquinoxaline and its phenylhydrazone and semicarbazone (SACHS and RÖHMER), A., i, 837.

Acetylpropionyl-disemicarbazone, and **-phenylhydrazonesemicarbazone** (POSNER), A., i, 82.

Acetyl*iso*propylbutyric acid. See δ-Keto-β-*iso*propylhexoic acid.

***p*-Acetyltetrahydrotoluene** and its oxime, dibromo-oxime, and semicarbazone (WALLACH and RAHN), A., i, 804.

Acetyl*di*thiocarbamic acid, ethyl acetate of (WHEELER and BEARDSLEY), A., i, 503.

ethylbenzene derivative of (WHEELER and JAMIESON), A., i, 763.

Acetyl*di*thiocarbamic acid, *iso*butyl ester (WHEELER and JOHNSON), A., i, 761.

Acetyl-ψ-thiocarbamides (WHEELER and JOHNSON), A., i, 26.

Acetyl-thioglycoll-anilide and **-*p*-xylidide** (WHEELER and JOHNSON), A., i, 759.

Acetyl-β-trimethyldehydrobrazilin (HERZIG and POLLAK), A., i, 483.

Acid (m. p. 126–127°), from the reduction of trichloromethylparaconic acid (MYERS), A., i, 590.

from the hydrolysis of serum-albumin (LANGSTEIN), A., i, 331.

free, origin and nature of the, formed during Hübl's reaction with unsaturated compounds (INGLE), A., i, 528.

Acid, $C_2H_4O_3N_2$, and its salts, from nitromalonamide and sulphuric acid (ULPIANI and FERRETTI), A., i, 431.

$C_2H_7O_3P$, from ethylene glycol and phosphorous acid (CARRÉ), A., i, 131.

$C_4H_5O_3N$, ethyl ester, and its silver salt, from ethyl dimethylpyronedicarboxylate and hydroxylamine (PALAZZO), A., i, 816.

$C_7H_8O_4$, and its ester and bromo-derivative, from the action of ethyl sodiomalonate on αγ-dibromo-β-dimethylpropane (IPATIEFF), A., i, 588.

$C_7H_{10}O_2$, and its ester, amide, and dibromide, from cyclopentanolacetic acid (WALLACH and SPERANSKI), A., i, 722, 800.

$C_7H_{10}O_4$, from pilocarpine (PINNER and SCHWARZ), A., i, 232.

$C_8H_{12}O_2$, and its ethyl ester, amide, and nitrile from β-methylcyclopentanolacetic acid (WALLACH and SPERANSKI), A., i, 722.

$C_8H_{12}O_4$, and their bromo-derivatives, from the action of ethyl sodiomalonate on the isomeric tribromoisopentanes (IPATIEFF and SWIDERSKI), A., i, 132.

$C_8H_{12}O_5$, from the oxidation of camphoric acid, constitution of (BALBIANO), A., i, 741.

$C_9H_{13}O_3N_3$, ethyl ester, from semicarbazide and ethyl γγ-diacetylbutyrate (MARCH), A., i, 707.

$C_9H_{14}O_4$, and its silver salt, from the oxidation of isothujoneketolactone (WALLACH), A., i, 802.

$C_9H_{15}O_4N$, and its salts, from diethyl methylhexahydrocinchomeronate methiodide (SKRAUP and PICCOLI), A., i, 565.

$C_9H_{16}O_2$, from heating the acid $C_{10}H_{16}O_4$ (SOLONINA), A., i, 256.

$C_9H_{16}O_4$, and its silver salt, from thujamenthoketonic acid (WALLACH), A., i, 802.

$C_9H_{17}O_3N$, and its hydrochloride from 3-keto-2:2:5:5-tetramethylpyrrolidine (PAULY), A., i, 560.

$C_{10}H_{16}O_2$, from the hydrolysis of ethyl bromo-α-dihydrocampholenate (BLAISE and BLANC), A., i, 300.

$C_{10}H_{16}O_4$, ethyl ester, from the action of ethyl sodiomalonate on diethylallene and hydrogen bromide (SOLONINA), A., i, 256.

$C_{10}H_{18}O_3$, from the reduction of camphonic acid (LAPWORTH and LENTON), T., 22.

Acid, $C_{11}H_{10}O_4$, or $C_{14}H_{14}O_5$, from the oxidation of sabinolglycuronic acid (FROMM and HILDEBRANDT), A., ii, 160.

$C_{12}H_9O_4N$, and its hydrate, from the action of hydrochloric acid on the alkaline solution of $C_{12}H_{10}O_3N$ (DE JONG), A., i, 123.

$C_{12}H_{16}O_2$, and its ester from 3-methyl-5-isopropyl-Δ^2-cyclohexenone (WALLACH and BÖTTICHER), A., i, 799.

$C_{12}H_{18}O_2$, ethyl ester (two), from carvenone and dihydrocarvone (WALLACH and THÖLKE), A., i, 723, 800.

$C_{12}H_{16}O_2$, and its ethyl ester and silver salt, from ethyl mentholacetate (WALLACH and THÖLKE), A., i, 799.

$C_{12}H_{20}O_2$, and its ethyl ester, from ethyl carvomentholacetate (WALLACH and THÖLKE), A., i, 799.

$C_{12}H_{11}O_4N$, and its ethyl ester, from γ-keto-$\alpha\delta$-diphenyliminopentane-α-carboxylic acid (SIMON), A., i, 423.

$C_{12}H_{12}O_4N_2$, and its ethyl ester, salts, and ethyl derivative, from the action of sulphuric acid on diethyl β-anilinotricarballylic acid nitrile (SCHROETER and KIRNBERGER), A., i, 531.

$C_{12}H_{14}O_5N_2$, from the action of potassium hydroxide on $C_{13}H_{16}O_5N_2$ (PERKIN), P., **1901**, 204.

$C_{12}H_{18}O_2$, and its ethyl ester, from carvenone and ethyl bromoacetate (WALLACH and THÖLKE), A., i, 723, 800.

$C_{12}H_{24}O_3$, and its amide and nitrile, from methyl nonyl ketone (CARETTE), A., i, 346.

$C_{12}H_{25}O_2N$, from the hydrolysis of the nitrile, $C_{12}N_{23}ON$ (CARETTE), A., i, 346.

$C_{13}H_{16}O_4$, and $C_{13}H_{18}O_3$, from the aldol, $C_{13}H_{16}O_2$ (MICHEL and SPITZAUER), A., i, 292.

$C_{13}H_{16}O_8N_2$, methyl ester, from the action of nitric acid on methyl dimethylacetoacetate (PERKIN), P., **1901**, 204.

$C_{13}H_{17}O_3N$, from β-methyladipic anhydride and aniline (SPERANSKI), A., i, 384.

$C_{13}H_{22}O_8$, and its salts, from the condensation of butyric acid (ALBO), A., i, 10, 200.

$C_{14}H_{14}O_4N_2$, ethyl ester, from phenylhydrazine and ethyl *as*-diacetylsuccinate (v. MEYER, FRIESSNER, and v. FINDEISEN), A., i, 658.

$C_{14}H_{19}O_6N$, from the base $C_{14}H_{18}O_4N_2$ (FREUND and BAMBERG), A., i, 556.

Acid, $C_{15}H_{20}O_6N_2$, ethyl ester, from ethyl ethylidenemalonate and ethyl β-aminocrotonate (KNOEVENAGEL and BRUNSWIG), A., i, 641.

$C_{16}H_{11}O_2N$, from fluorenonequinoline (DIELS and STAEHLIN), A., i, 830.

$C_{16}H_{17}O_6N$, from the oxidation of corydic acid by permanganate (DOBBIE and LAUDER), T., 156.

$C_{17}H_{16}O_3$ (two), from the reduction of α-oxy-β-phenyl-γ-benzylbutyrolactone and of α-oxy-γ-phenyl-β-benzylidenebutyrolactone (ERLENMEYER), A., i, 543.

$C_{17}H_{21}O_5N$, from cinnamic acid piperidide and ethyl sodiomalonate (VORLÄNDER), A., i, 310.

$C_{17}H_{34}O_2$, from olive oil (HOLDE), A., i, 257.

$C_{18}H_{15}O_4N$, $C_{18}H_{16}O_5N$, and $C_{18}H_{17}O_6N$, from cinnamanilide and ethyl sodiomalonate (VORLÄNDER), A., i, 311.

$C_{19}H_{16}O_5N_2$, from benzidinedicarboxylic acid (MOIR), P., **1902**, 196.

$C_{22}H_{20}O_3$, from α-truxillic acid (RIIBER), A., i, 617.

$C_{22}H_{28}O_8N_2$, or $C_{22}H_{30}O_8N_2$, and $C_{44}H_{64}O_{15}N$, from the action of nitric acid on digitogenic acid (KILIANI and MERK), A., i, 46.

$C_{23}H_{28}O_6N_2$, ethyl ester, from ethyl cuminylidenemalonate and ethyl β-aminocrotonate (KNOEVENAGEL and BRUNSWIG), A., i, 641.

Acid-albumin. See Albumin.

Acid amides. See Amides.

Acid anhydrides. See Anhydrides.

Acid chlorides, preparation of (CHEMISCHE FABRIK VON HEYDEN), A., i, 93.

formation of, by means of thionyl chloride (MEYER), A., i, 31.

action of, on aldehydes, in presence of zinc chloride (DESCUDÉ), A., i, 149, 339, 451.

interaction of, with aldehydes and ketones (LEES), P., **1902**, 213.

action of, on methyl and ethyl sodioacetoacetate (BONGERT), A., i, 73.

action of, on trioxymethylene (DESCUDÉ), A., i, 149, 339, 738.

Acid imides, compounds of, with mercury and with silver (LEY and SCHAEFER), A., i, 358.

Acidimetry, normal alkalis and indicators in (JUNGCLAUSSEN), A., ii, 46.

of phosphoric acid (BERTHELOT), A., ii, 255.

Acid solutions, methods of standardising (HOPKINS), A., ii, 46.

Acids from the oil of *Asarum canadense* (POWER and LEES), T., 72; P. **1901**, 210.

Acids of *Bignonia Catalpa* (PIUTTI and COMANDUCCI), A., ii, 523.
from eucalyptus oil (SMITH), A., i, 103.
from lichens (ZOPF), A., i, 465, 789; (HESSE), A., i, 680.
from oil of rue (POWER and LEES), T., 1589; P., **1902**, 193.
synthesis of, by means of magnesium organic compounds (GRIGNARD), A., i, 142.
formation of, in autolysis of the liver (MAGNUS-LEVY), A., ii, 517.
determination of the affinities of (DAWSON and GRANT), T., 513; P., **1902**, 68.
bases, and salts, dissociation of, at different temperatures (JONES and DOUGLAS), A., ii, 59.
esterification of, with phenols (BAKUNIN), A., i, 370.
microchemical test for alkalis and (EMICH), A., ii, 45.
Acids of the acetic series, solubilities of the calcium salts of the (LUMSDEN), T., 350; P., **1902**, 31.
compounds of, with beryllium (LACOMBE), A., i, 418.
Acids, carboxylic, syntheses of (HOUBEN and KESSELKAUL), A., i, 583.
Acids of complex function, colorimetric titrations of (BERTHELOT), A., i, 199.
Acids, dibasic, dissociation of (WEGSCHEIDER), A., ii, 643.
Acids, fatty, in contaminated waters (CAUSSE), A., ii, 360.
electrolysis of salts of the, formation of alcohols and aldehydes by the (HOFER and MOEST), A., i, 736.
decomposition of (NEF), A., i, 8.
halogen derivatives of (FREER), A., i, 200.
α-, β-, γ-, and δ-halogen derivatives of, velocity of esterification and electrical conductivity of (LICHTY), A., i, 201.
glycerol esters, action of superheated steam on (KLIMONT), A., i, 202.
higher, formation of, from sugar (MAGNUS-LEVY), A., ii, 614.
action of, on alkali carbonates (KLIMONT), A., i, 132.
volatile, amount of, in butter fat (VIETH), A., ii, 348.
Acids, organic, in some South European fruits (BORNTRAEGER), A., ii, 347.
synthesis of (WALTHER), A., i, 203.
history of the electrolysis of (BUNGE), A., i, 338.
influence of constitution on the affinity constants of (WEGSCHEIDER), A., ii, 494.
Acids, organic, action of, on antimony (MORITZ and SCHNEIDER), A., i, 703.
action of, on antimony oxides (JORDIS), A., i, 740.
action of phosphorus trichloride on (DELACRE), A., i, 527.
compounds of, with antimony pentachloride (ROSENHEIM and STELLMANN), A., i, 68; (ROSENHEIM and LOEWENSTAMM), A., i, 358.
compounds of, with bismuth (PRUNIER), A., i, 76.
non-volatile, amount of, in tobacco leaves at various periods of their growth (KISSLING), A., ii, 625.
Acids, soluble, estimation of, in butter (VANDAM), A., ii, 541.
Acids, γδ-unsaturated monobasic, preparation of (SOLONINA), A., i, 256.
Acids, unsaturated dicarboxylic, from ketones and ethyl succinate (STOBBE), A., i, 459; (STOBBE and NIEDENZU), A., i, 460; (STOBBE, STRIGEL, and MEYER), A., i, 461.
Acids, unsaturated, of the sorbic acid series, and their transformation into cyclic hydrocarbons (DOEBNER), A., i, 598.
Acids, volatile, formation of, in alcoholic fermentation (SEIFERT), **A., ii, 98.**
estimation of, in wine (CURTEL), A., ii, 55; (ROCQUES and SELLIER), A., ii, 111; (SELLIER; MÖSLINGER), A., ii, 180; (DUGAST), A., ii, 235.
Acids, weak, salts of, action of methyl alcohol on (WISLICENUS and STOEBER), A., i, 202.
Acids (or their derivative or salts). See also:—
Acetaldehyde-ββ-disulphonic acid.
Acetic acid.
Acetoacetic acid.
Acetone-β-naphthylcarbamic acid.
Acetone-αγγ-trisulphonic acid.
Acetophenone-phenyl- and -o-tolylcarbamic acids.
α-Acetoxy-γ-phenylcrotonic acid.
Acetylcochenillic acid.
Acetylhydroxamic acid.
Acetyl-m-hydroxyphenyl-p-tolylaminesulphonic acids.
Acetylindoxylic acids.
Acetylmethylanthranilic acid.
γ-Acetylmethylbutyric acids.
5-Acetyl-4-methylpyrazole-3-carboxylic acid.
5-Acetyl-4-methylpyrazoline-3:5-dicarboxylic acid.
α-Acetyl-γ-phenylacetoacetic acid.
γ-Acetyl-γ-phenylbutyrolactone-β-carboxylic acid.
o-Acetylphenylcarbamic acid.

Acids. See :—
Acetylphenylmalonamic acid.
5-Acetyl-4-phenylpyrazoline-3:5-dicarboxylic acid.
Acetyl*iso*propylbutyric acid.
Acetyl*di*thiocarbamic acid.
Aconitic acids.
Acylcyanoacetic acids.
Acylthiocarbamic acids.
Adipic acids.
Afelemic acid.
Agaric acid.
Agaricic acid.
Alanine.
Alanylalaninecarboxylic acid.
β-Aldehydic acids.
8-Aldehydonaphthoic acid.
Alkylmalonic acid.
Allophanic acid.
Aminoximeoxalic acid.
*m-iso*Amylaminobenzoic acid.
*m-iso*Amylaminohexahydrobenzoic acid.
Angelic acid.
Anhydrobrazilic acid.
β-Anilinocrotonic acid.
β-Anilino-β-cyanobutyric acid.
Anilinoethylenetricarboxylic acid.
2-Anilinohydrocarbostyril-2-carboxylic acid.
Anilinomalonic acid.
Anilinomethylenemalonic acid.
2-Anilino-3:5-*di*nitrobenzoic acid.
Anilinophosphamic acid.
Anilino-*p*-toluidinophosphoric acid.
p-Anisidinomethylenemalonic acid.
Anisolepropionic acid.
α-Anisylidenelævulic acid.
Anisylidenemalic acid.
Anthragallolsulphonic acid.
Anthranilic acid.
Anthranilic-acetonitrilic acid.
Anthraquinonedisulphonic acid.
Anthraquinonesulphonic acids.
Apionic acid.
Apophyllenic acid.
d-Arabonic acid.
Aromadendric acid.
Artemic acid.
Asparagine.
Benzaldehydephenylhydrazone-*p*-sulphonic acid.
Benzenepentacarboxylic acid.
Benzenesulphinic acid.
Benzenesulphonic acid.
Benzenethiosulphonic acids.
Benzenoid aminosulphonic acids.
Benzhydroxamic acid.
Benzidinedimalonic acid.
Benzilic acid.
Benzoic acid.
Benzoic-acetic acid.

Acids. See :—
Benzoic-toluic acids.
Benzosulphurylphenylglycinecarboxylic acid.
Benzoylacetic acid.
Benzoylacetoacetic acid.
Benzoylaminohexoic acids.
Benzoylglycylaminoacetic acid.
Benzoylglycylglycylaminoacetic acid.
Benzoylglycylglycylglycylaminoacetic acid.
Benzoyldimethylmalonic acid.
N-Benzoylindoxylic acid.
Benzoyl-*p*-nitrobenzoylacetic acid.
β-Benzoylpicolinic acid.
Benzoyltartaric acid.
Benzoyl*di*thiocarbamic acid.
β-Benzylaminocrotonic acid.
Benzylaniline-*p*-sulphonic acid.
Benzylbromomalonic acid.
Benzylcarboxyaconitic acid.
β-Benzyl-*o*-hydrazinobenzoic acid.
Benzylideneacetophenone-acetoacetic acid.
α-Benzylideneglutaconic acid.
Benzylidene-*o*-hydrazinobenzoic acid.
α-Benzylidenelævulic acid.
Benzylidenemalic acid.
Benzylidenemalonic acid.
Benzylmethylacetic acid.
Benzylphthalamic acid.
Berberidic acid.
Berberonic acid.
Bisdinaphthaxanthylsulphonic acid.
Bismuthigallic acid.
Bismuthogallic acid.
Borneolglycuronic acid.
Brazilic acid.
Brazilinic acid.
Butanedicarboxylic acids.
Butanepentacarboxylic acid.
Butanetetracarboxylic acids.
Butanetricarboxylic acids.
α-*iso*Butyl-β-*iso*amylacetic acid.
Butylenehexacarboxylic acid.
Butylene-tri- and -penta-carboxylic acids.
Butylenetetracarboxylic acids.
α-*iso*Butyl-β-*iso*propylbutyric acid.
α-*iso*Butyl-β-*iso*propyl-γ-hydroxybutyric acid.
*iso*Butylpyruvic acid.
Butyric acids.
Butyrylacetoacetic acid.
Butyrylbutyric acid.
Butyrylpyruvic acid.
Cacodylic acid.
Caffetannic acid.
Calameonic acid.
Camphenolglycuronic acid.
Campholenic acids.
i-α-Campholytic acid.

Acids. See :—
Camphonic acid.
Camphononic acid.
β-Camphoramidic acid.
β-Camphoranic acid.
Camphorenic acid.
Camphoric acid.
Camphoronic acid.
*iso*Camphoronic acid.
Camphorsulphonic acid.
Carbaminoglycylglycine.
Carbethoxyphenylglycinecarboxylic acid.
Carbonyldiglycylglycine.
Carbonyldihydroxydinaphthylaminedisulphonic acids.
Carbonyldiphenylglycine.
o-Carboxyanilino-α-phenylacetic acid.
Carboxydimethoxybenzoylformic acid.
Carboxydimethoxybenzylformic acid.
2-Carboxy-5:6-dimethoxyphenoxyacetic acid.
Carboxyglutaric acid.
2-Carboxy-5-methoxyphenoxyacetic acid.
Carboxymethoxyphenoxylactic acid.
3-Carboxy-2-methylfurfuran-4-acetic acid.
Carboxyphenylarsenic acids.
Carboxytolylarsenic acids.
Carvomentholacetic acid.
Caseonic acid.
Chondroitinsulphuric acid.
Chromicyanic acid.
Chromone-2-carboxylic acid.
Chrysodiphenic acid.
Chrysophanic acid.
Cinchomeron-3-amic acid.
Cinchomeronic acid.
Cinchomerylglycine.
Cinchotinesulphonic acid.
Cinnamenylacrylic acid.
Cinnamic acids.
Cinnamoylaminoacetic acid.
Cinnamylidenemalonic acid.
Citralideneacetic acid.
Citralideneacetoacetic acids.
Citrarialic acid.
Citric acid.
Cobalticyanic acid.
Cobaltioxalic acid.
Coccic acid.
Cochenillic acid.
Corydalinesulphonic acid.
Corydic acid.
Corydilic acid.
Cotarnic acid.
Coumarilic acid.
β-Cresotic acid.
Crotonic acid.
ψ- and *p*-Cumylarsenic acids.
Cyanic acid.

Acids. See :—
Cyanuric acid.
*iso*Cyanuric acid.
Decenoic acid.
Decoic acids.
Dehydrocamphoric acid.
Dehydromucic acid.
Desmotroposantonous acid.
Desylcinnamic acid.
Desyleneacetic acids.
Desylenemalonic acid.
Dhurrinic acid.
γγ-Diacetylbutyric acid.
ββ-Diacetyl-α-methylpropionic acid.
Diacetylorthonitric acid.
Dianilinomalonic acid.
2:6-Dianilinopyridine-4-carboxylic acid.
Di-*o*-anisyldihydrazonecyanoacetic acid.
Di-*o*-anisyldihydrazonemalonic acid.
Dibenzoylmesitylenic acids.
Dibenzoyltartaric acid.
Dibenzoyltrimesic acid.
Dibenzoyluvitic acids.
Dibenzylideneacetone-acetoacetic acid.
Dibenzylidenelævulic acid.
Dicarboxyaconitic acid.
Dicarboxyglutaconic acid.
Dicarboxyglutaric acid.
Dicarboxyphenylarsenic acid.
3:5-Dicarboxypyrrole-2:4-diacetic acid.
Diethylaminoacetic acid.
Diethylarsinibenzoic acid.
p-Diethylarsinobenzoic acid.
s-αα-Diethylglutaric acid.
Diethylglycollic acid.
Diethyl-α-naphthylamine-5-sulphonic acid.
Diethyl-*o*-toluidine-4-sulphonic acid.
Digitic acid.
Digitogenic acid.
Digitoic acid.
Dihydrobrazilic acid.
α-Dihydrocampholenic acid.
Dihydrocampholytic acids.
Dihydrocamphoric acid.
Dihydrocarbostyril-4-acetic acid.
Dihydrocornicularic acid.
Dihydrofencholenic acid.
Dihydrolutidinedicarboxylic acid.
Dihydro-2-lutidone-3:5-dicarboxylic acid.
$\Delta^{1:5}$-Dihydro-*m*-tolylacetic acid.
2:6-Dihydroxycinchomeronic acid.
2:2′-Dihydroxydiphenyl-di- and -tetrasulphonic acids.
3:4-Dihydroxyhydratropic acid.
1:1′-Dihydroxy-6:6′-ketoethylenedinaphthylamine-3:3′-disulphonic acid.

Acids. See :—
4:7-Dihydroxy-6-methoxydihydroquinaldine-5-carboxylic acid.
γδ-Dihydroxy-γ-methyl-γ-ethylpyrotartaric acid.
2:3-Dihydroxynaphthalene-6:8-disulphonic acid.
Di-3- and -*o*-hydroxy-2-phenylquinoxalinesulphonic acid.
Dihydroxy*iso*propylhypophosphorous acid.
2:6-Dihydroxypyridine-3:4-di- and -3:4:5-tri-carboxylic acids.
1:2-Diketopentamethylene-3:5-dicarboxylic acid.
Dimethoxybenzoylpropionic acid.
5:7-Dimethoxychromone-2-carboxylic acid.
4:6-Dimethoxycoumaric acid.
4:6-Dimethoxycoumarilic acid.
3:4-Dimethoxyhydratropic acid.
Dimethoxymethylenedioxyhydratropic acid.
Dimethylacetoacetic acid.
Dimethylacrylic acid.
ββ-Dimethyladipic acid.
Dimethylaminoacetic acid.
p-Dimethylaminobenzylidene-*p*-aminobenzenesulphinic acid.
γ-Dimethylaminobutyric acid.
Dimethylaminophenylarsenic acid.
β-Dimethylaminopropionic acid.
Dimethylaniline-6-carboxylic acid.
Dimethylaniline-6-sulphonic acid.
Dimethyl*di*bromoethylacetic acid.
αα-Dimethylbutane-αβδ-tricarboxylic acid.
βγ-Dimethyl-α-*iso*butylvaleric acid.
βγ-Dimethylbutyrolactoneacetic acid.
βγ-Dimethylcrotonolactoneacetic acid.
3:5-Dimethyl-$\Delta^{1:5}$-dihydrophenylacetic acid.
2:4-Dimethylfurfuran-3-carboxylic acid.
αα-Dimethylglutaconic acid.
Dimethylglutaric acids.
1:3-Dimethyl-5-*cyclo*hexanecarboxylic acid.
1:1′-Dimethyl*cyclo*hexanemalonic acid.
3:5-Dimethyl*cyclo*hexane-3-ol-1-one-4:6-dicarboxylic acid.
Dimethylhomophthalcarboxylic acid.
Dimethylmalonic acid.
Dimethyl-α-naphthylaminesulphonic acids.
2:6-Dimethylnicotinic acid.
Dimethyloxazolepropionic acids.
Dimethylphloroglucinolcarboxylic acid.
Dimethylphthalide-acetic, -bromotetronic and -tetronic acids.

Acids. See :—
αβ-Dimethylpropanetricarboxylic acid.
2:4-Dimethylpyridine-3:5-di- and -3:5:6-tri-carboxylic acids.
Dimethylpyronedicarboxylic acid.
4:6-Dimethyl-1:2-pyrone-5-carboxylic acid.
Dimethylpyruvic acid.
γε-Dimethylsorbic acid.
Dimethylsuccinic acid.
Dimethyltricarballylic acids.
Dimethyltrimethylenedicarboxylic acid.
Dimethylvinylacetic acid.
Dimethylvioluric acid.
1:4-Dioxycopyrinecarboxylic acid.
Dioxysylvic acid.
Dioxytariric acid.
Diphenylacetic acid.
γδ-Diphenylallylacetic acid.
Diphenyldihydrazonecyanoacetic acid.
Diphenyldihydrazonemalonic acid.
ββ-Diphenyl-αα-dimethylpropionic acid.
Diphenyl-4:4′-disulphonic acid.
Diphenyleneketonecarboxylic acid.
Diphenylenequinoxalinesulphonic acid.
Diphenylglycollic acid.
Diphenylmethane-3:3′-dicarboxylic acid.
Diphenylmethylpyrrolecarboxylic acids.
γδ-Diphenyl-γ-pentenoic acid.
1:4-Diphenylpyrrolidone-mono- and -5:5-di-carboxylic acids.
Diphenyltetramethylenebisbromomethyleneacetic acid.
Diphenyltetramethylenebismethylenemalonic acid.
Diphenyltetrenecarboxylic acid.
Diphenyltetrenedicarboxylic acid.
Diphenylthiocyanoacetic acid.
αδ-Diphenylvaleric acid.
Dipropionylorthonitric acid.
αγ-Di*iso*propyltricarballylic acids.
Dipyridoylsuccinic acids.
Disulphobenzoic acid.
Di-*o*-tolyldihydrazonecyanoacetic acid.
Di-*o*-tolyldihydrazonemalonic acid.
Diurethanepyruvic acid.
d-Erythronic acid.
Ethanedicarboxylic acid.
Ethanetetracarboxylic acid.
Ethoxyanilinophosphoric acid.
4-Ethoxy-4-*iso*butylquinolnitrolic acid.
Ethoxydeoxybenzoincarboxylic acids.
4-(or 5-)Ethoxydibenzyl-2-carboxylic acid.
4-Ethoxy-2:6-dimethylnicotinic acid.

Acids. See :—
δ-Ethoxy-β-hexanone-ε-carboxylamide-γ-carboxylic acid.
3-Ethoxyphenanthrene-10-carboxylic acid.
p-Ethoxyphenylacetic acid.
α-*p*-Ethoxyphenyl-*o*-amino- and -*o*-nitro-cinnamic acids.
p-Ethoxyphenylsuccinamic acid.
β-Ethoxyphthalylacetic acid.
4-(or 5)-Ethoxystilbene-2-carboxylic acid.
p-Ethoxysuccinanilic acid.
Ethoxysulphinic acid.
Ethoxy-*p*-toluidinophosphoric acid.
Ethylbutyrylacetic acid.
Ethylcarboxyaconitic acid.
Ethylenebis-1-tetrahydro*iso*quinoline-1-acetic acid.
Ethylenedicarboxylic acid.
Ethylhexoylacetic acid.
Ethylideneacetoacetic acid.
Ethylidenebisacetoacetic acid.
α-Ethylidenediglutaconic acid.
α-Ethylideneglutaric acid.
i-Ethylidenelactic acid.
Ethylmalonamic acid.
3-Ethylpyridine-4-carboxylic acid.
1-Ethyltetrahydroquinolinecarboxylic acid.
Eudesmic acid.
Euxanthic acid.
Ferribenzoylacetic acid.
Ferricyanic acid.
Ferrioxalic acid.
Ferrisalicylic acid.
Ferrocyanic acid.
Filixic acid.
Flavaspidic acids.
Fluorenecarboxylic acid.
Fluorene-oxalic acid.
Fluorenone-5-carboxylic acid.
Formic acid.
Formylphenylacetic acid.
Fumaric acid.
Furfurandicarboxylic acid.
Furfuransulphonic acid.
Furfurylcarbamic acid.
β-Furfurylglutaric acid.
Galactonic acid.
Gallic acid.
Gitonic acid.
Glomellic acid.
Glucophosphoric acid.
Glutaconic acid.
Glutamic acid.
Glutaric acids.
Glycero-arsenic acid.
Glycerophosphorous acid.
Glycine.
Glycocyamine.
Glycollic acid.

Acids. See :—
Glycuronic acid.
Glycylglycine.
Glycylglycinecarboxylic acid.
Glycylglycyl-leucinecarboxylic acid.
Glyoxylic acid.
Guaiacoloxyfumaric acid.
Guaiacolsulphonic acid.
Hæmatoxylinic acid.
Hæmotricarboxylic acids.
Hemipinic acids.
*cyclo*Heptanecarboxylic acid.
Heptanedicarboxylic acid.
*cyclo*Heptane-1-olacetic acid.
Heptane-αγγεεη-hexacarboxylic acid.
Heptenoic acid.
Heptoic acid.
Hexahydrobenzoic acid.
Hexahydrolutidinedicarboxylic acid.
Hexahydro-*o*-toluic acid.
*cyclo*Hexanecarboxylic acid.
Hexanedicarboxylic acids.
Hexanetricarboxylic acid.
Hexenoic acid.
Hexoic acids.
Hexoylacetic acid.
Hexoylacetoacetic acid.
sec-Hexylacetoacetic acid.
*cyclo*Hexylbenzenesulphonic acid.
Hexylbutyrylacetic acid.
Hippuric acid.
Homo-allantoic acid.
Homonicotinic acid.
Homoparacopaivic acid.
Homopilomalic acid.
*iso*Hydrochelidonic acid.
Hydrocinnamic acid.
Hydroxamic acids.
Hydroxamino-oximinomalonic acid.
m-Hydroxy-*o*-*iso*amylbenzoic acid.
5-Hydroxy-2-anilinonaphthalene-7-sulphonic acid.
Hydroxyanthraquinonesulphonic acids.
Hydroxybenzoic acids.
o-Hydroxybenzylideneacetoacetic acid.
Hydroxybutyric acids.
β-Hydroxycamphoronic acid.
4-Hydroxy*iso*carbostyrilphthaloylic acid.
p-Hydroxycinnamic acid.
Hydroxycomenic acid.
p-Hydroxycumylacetic acid.
Hydroxydehydro*iso*photosantonic acid.
β-Hydroxy-αα-diethylglutaric acid.
4-Hydroxydihydrofencholenic acid.
β-Hydroxy-αα-dimethylglutaric acid.
6-Hydroxy-2:5-dimethylpyridine-3-carboxylic acid.
Hydroxydiphenylacetic acid.
Hydroxydiphenylaminesulphonic acids.

Acids. See :—
2-Hydroxy-5-ethoxybenzoylpyruvic acid.
α-Hydroxy-4-(or 5-)ethoxydibenzyl-2-carboxylic acid.
m-Hydroxy-*o*-ethylbenzoic acid.
Hydroxyglutaric acids.
m-Hydroxyhexahydrobenzoic acid.
p-Hydroxyhexahydrotoluic acid.
6-Hydroxy-2-keto-$\Delta^{3:5}$-dihydropyridinetricarboxylic acid.
1-Hydroxylaminoanthraquinone-2-sulphonic acid.
2-Hydroxy-4:6-lutidine-3-carboxylic acid.
o-Hydroxymandelic acid.
o-Hydroxymercurisalicylic acid.
6-Hydroxy-4-methoxybenzoylpropionic acid.
2-Hydroxy-4-mono- and -4:6-dimethoxybenzoylpyruvic acids.
p-Hydroxy-*m*-methoxyphenylmethanebis-2:5-dimethylpyrrole-3-carboxylic acid.
β-Hydroxy-β-methyl-α-ethylbutyric acid.
2-Hydroxy-4-methylquinoline-3-carboxylic acid.
Hydroxymethylsalicylic acid.
6-Hydroxymethyl-2:3:4-trimethylquinolinic acid.
o-Hydroxynaphthoic acids.
2-Hydroxy-3-naphthoic acid.
1-Hydroxy-2-naphthoylpyruvic acid.
4-Hydroxynicotinic acid.
o-Hydroxyphenylmethanebis-2:5-dimethylpyrrole-3-carboxylic acid.
β-4-Hydroxyphenyl-β-methoxypropionic acid.
β-4-Hydroxyphenylpropionic acid.
m-Hydroxyphenyl-*p*-tolylaminesulphonic acids.
m-Hydroxyphenyl-*p*-tolylnitrosoaminesulphonic acid.
4-Hydroxyphthalic acid.
β-Hydroxy-β-piperonyl-α-dimethylpropionic acid.
Hydroxypivalic acid.
α-Hydroxypropionic acid.
ε-Hydroxy-β-*iso*propylheptoic acid.
Hydroxy*iso*propylhypophosphorous acid.
Hydroxy*iso*propylphosphinic acid.
Hydroxypyrrolidine-2-carboxylic acid.
Hydroxyterephthalic acid.
2-Hydroxy-*m*-toluic acid.
8-Hydroxy-2-*o*-tolylaminonaphthalene-6-sulphonic acid.
β-Hydroxy-β-*p*-tolyl-αα-dimethylpropionic acid.
β-Hydroxy-βγγ-trimethylpentanedioic acid.

Acids. See :—
γ-Hydroxyundecoic acid.
Hydroxyvaleric acids.
p-Hydroxy-*p*-xylylacetic acid.
5-Hydroxy-2-*o*-xylylaminonaphthalene-7-sulphonic acid.
Illuric acid.
Indigotinsulphonic acid.
Indole-2-carboxylic acid.
Indoneacetic acids.
Indophenazinecarboxylic acid.
Iononecarboxylic acids.
Isatoic acid.
Isoprenic acid.
Kairolinecarboxylic acids.
Ketocampholenic acid.
Ketodihydrocampholenic acid.
γ-Keto-αδ-diphenyliminopentane-α-carboxylic acid.
Keto-3:5-diphenyl-Δ^2-tetrahydrobenzene-6-carboxylic acid.
Ketohexyltetronic acid.
2-Ketomethylhexamethylenecarboxylic acid.
α-Keto-β-methylhexolactone-γ-carboxylic acid.
2-Ketomethyl*iso*propylhexamethylene carboxylic acid.
1-Keto-5-phenyl-3-cinnamenyl-Δ^2-tetrahydrobenzene-6-carboxylic acid.
ε-Keto-β-*iso*propylheptoic acid.
δ-Keto-β-*iso*propylhexoic acid.
Ketotariric acid.
Lactic acids.
Lauric acid.
Lauronolic acid.
o-Leucauraminobenzoic acid.
Leucine.
Leucylleucine.
Lupinic acid.
Lutidinedicarboxylic acid.
ψ-Lutidostyril-5-carboxylic acid.
Lysalbic acid.
Malamic acid.
Malic acid.
β-*iso*Malic acid.
Malondihydroxamic acid.
Malonic acid.
Malontetranilic acid.
Mancopalenic acid.
Mancopalic acid.
Mancopalolic acid.
Manelemic acids.
Mellic acid.
Mentholacetic acid.
Mentholglycuronic acid.
Mercaptothionic acid.
Mercuribenzoic acid.
β-Metacopaivic acid.
Metanilic acid.
Methanedisulphonic acid.
Methenyldianthranilacetic acid

Acids. See :—
Methoxyanilinophosphoric acid.
7-Methoxychromone-2-carboxylic acid.
4-Methoxy-4-ethoxyquinol-1-nitrolic acid.
p-Methoxyhydratropic acid.
2-Methoxyphenanthrene-9-carboxylic acid.
α-Methoxyphthalic acid.
p-Methoxysalicylic acid.
Methoxysulphinic acid.
Methoxy-*p*-toluidinophosphoric acid.
Methylanthranilic acid.
Methylarsenic acid.
δ-Methyl-α-*iso*butylhexoic acid.
Methylcamphocarboxylic acid.
Methylcarboxyaconitic acid.
Methylene-α-alanine.
Methylenebisanthranilic acid.
Methylenecitric acid.
Methylenedi-2-hydroxy-3-naphthoic acid.
Methylenedimethylsuccinic acid.
Methylenedioxyphenylmethanebis-2:5-dimethylpyrrole-3-carboxylic acid.
Methylenedisuccinic acid.
γ-Methyl-γ-ethylaconic acid.
Methylethylaminoacetic acid.
5-Methyl-3-ethyl-$\Delta^{3:5}$-dihydrophenylacetic acid.
γ-Methyl-γ-ethylidenepyrotartaric acid.
γ-Methyl-γ-ethylparaconic acid.
Methylfluoreneoxalic acid.
Methylhexahydrocinchomeronic acid.
1-Methyl*cyclo*hexane-3-acetic and -3-malonic acids.
Methyl*cyclo*hexanecarboxylic acids.
1-Methyl*cyclo*hexane-3-ol-3-acetic acid.
1-Methyl*cyclo*hexane-3-ol-3-butyric acid.
1-Methyl*cyclo*hexane-3-ol-3-propionic acid.
1-Methyl*cyclo*-Δ^{3}-hexene-3-acetic acid.
Methylhexenoic acids.
δ-Methylhexoic acid.
Methylhexylpyruvic acid.
N-Methylindoxylic acid.
Methylmalonamic acid.
Methylnaphthylaminesulphonic acids.
Methylparaconic acid.
1-Methyl*cyclo*pentane-3-carboxylic acid.
β-Methyl*cyclo*pentanemethylidene-carboxylic acid.
β-Methyl*cyclo*pentanolacetic acid.
β-Methyl-δ-pentanone-αα-dicarboxylic acid.
Methylphloroglucinolcarboxylic acid.
β-Methylpimelic acid.

Acids. See :—
1-Methylpiperidine-2:6-dicarboxylic acid.
α-Methyl-δ-*iso*propyladipic acid.
δ-Methyl-α-*iso*propylhexoic acid.
4-Methylpyrazoledicarboxylic acid.
Methylpyridinecarboxylic acids.
Methylpyridinetricarboxylic acid.
2-Methyl-6-pyridylacetic acid.
4-Methylpyrimidine-6-carboxylic acid.
2-Methylpyrrole-3:4:5-tricarboxylic acid.
1-Methylpyrrolidine-2-mono- and -2:5-di-carboxylic acids.
Methylrubazonic acid.
5-Methylsalicylic acid.
γ-Methylsorbic acid.
1-Methyltetrahydroquinolinecarboxylic acids.
Methyltetramethylenedicarboxylic acid.
Methyltetronic acid.
Methyl*di*thiocarbamic acid.
Methylthiocyanomalonic acid.
α-Methyltricarballylic acids.
β-Methyluracil-4-carboxylic acid.
δ-Methyluric acid.
Montanic acid.
Mucobromic acid.
Mucochloric acid.
Muconic acid.
α-Naphthachromonecarboxylic acid.
Naphthalaldehydic acid.
Naphthalene-1:2-dicarboxylic acid.
Naphthalenedisulphonic acid.
Naphthalenoidaminosulphonic acids.
Naphthalene-8-sulphonic acid.
Naphtharonylacetic acid.
Naphthenecarboxylic acids.
Naphthoic acids.
Naphtholsulphonic acids.
Naphthoxyfumaric acids.
β-Naphthylamine-8-sulphonic acid.
β-Naphthylamino-3-naphthoic acid.
Nicotinic acid.
*iso*Nicotinic acid.
Niobioxalic acid.
Nonanedicarboxylic acid.
Nonanetricarboxylic acids.
Nonoic acid.
Norbrazilinic acid.
Nor*iso*saccharic acid.
Ochrolechiasic acid.
Octanedicarboxylic acid.
Opianic acid.
Ornithine.
Orthoformic acid.
Osmyloxalic acid.
Oxalacetic acid.
Oxalic acid.
Oxalodihydroxamic acid.
Oxaluric acids.

Acids. See :—
Oximinocyanoacetic acid.
Oximinomalonic acid.
Oximinomalon-*o*-tolylamic acid.
Oximino-oxalic acid.
α-Oximinovaleric acid.
p-Oxydiethylarsinibenzoic acid.
Oxyfulminic acid.
Oxymethylpyridonecarboxylic acid.
*allo*Oxyproteic acid.
Palmitic acid.
Papaveric acid.
Paracopaivic acid.
Pentanedicarboxylic acids.
Pentanehexacarboxylic acid.
*cyclo*Pentanemethylidenecarboxylic acid.
Pentanetetracarboxylic acids.
Pentanetricarboxylic acids.
*cyclo*Pentanolacetic acid.
Pentenedicarboxylic acids.
Pentenetetracarboxylic acid.
Pentenoic acids.
Pepsinic acid.
*iso*Persulphocyanic acid.
Phellandrenolglycuronic acid.
Phenanthraquinonecarboxylic acids.
Phenanthraquinonesulphonic acid.
Phenanthrene-9-carboxylic acid.
Phenanthrenesulphonic acids.
Phenanthroic acids.
Phenanthroxyacetic acids.
p-Phenetylthiohydantoic acid.
Phenolglycuronic acid.
Phenol-6-sulphonic acid.
Phenolsulphuric acid.
Phenylacetic acid.
Phenylacetic-benzoic acid.
Phenylalanine.
Phenylallophanic acid.
Phenylarsenic acid.
Phenylarsenious acid.
γ-Phenyl-α-benzoylacetoacetic acid.
Phenylbromomalonic acid.
Phenylcarboxyaconitic acid.
Phenyl-α-chloroacetic acid.
Phenylcinnamic acid.
4-Phenyldihydro-2-picolone-5-carboxylic acid.
1-Phenyl-3:5-dimethylpyrazole-4-acetic acid.
Phenyldimethylpyrazolepropionic acids.
1-Phenyl-2:5-dimethylpyrrole-3-carboxylic acid.
m-Phenylenediamine-5-carboxylic acid.
Phenylethenyldianthranilic acid.
β-Phenylethylcarbamic acid.
γ-Phenyl-γ-ethylidenepyrotartaric acid.
γ-Phenyl-γ-ethylitaconic acids.

Acids. See :—
Phenylethyl*di*thiocarbamic acid.
β-Phenylglutaranilic acid.
Phenylglutaric acids.
Phenylglycine.
Phenylglycine-*o*-carboxylic acid.
Phenylglycine-*o*-dicarboxylic acid.
Phenylglycinehydroxamic acid.
Phenylglycollic acid.
Phenylhydrazine-*p*-sulphonic acid.
3-Phenyl-1-indone-2-acetic acid.
d-Phenylitamalic acid.
4-Phenyllutidinedicarboxylic acid.
Phenylmethanebis-2:4- and -2:5-dimethylpyrrole-3-carboxylic acids.
α-Phenyl-β-3-methoxy-6-amino- and -6-nitro-cinnamic acids.
3-Phenyl-5-methylfurfuran-2:4-dicarboxylic acid.
Phenylmethylglycine.
5-Phenyl-3-methyl*cyclo*hexan-3-ol-1-one-4:6-dicarboxylic acid.
4-Phenyl-6-methyl-1:2-pyrone-5-carboxylic acid.
3-Phenyl-5-methylpyrrole-4-carboxylic acid.
s-Phenylmethylsuccinic acid.
Phenylmethyl*di*thiocarbamic acid.
1-Phenyl-5-methyl-1:2:3-triazole-4-carboxylic acid.
2-Phenylnaphthalene-1:7-dicarboxylic acid.
Phenyl-β-naphthylamine-6-sulphonic acid.
Phenylnitrocinnamic acids.
Phenyl*iso*nitrosoglycine.
Phenyloxamic acid.
Phenyloxyarsinodiarylcarboxylic acids.
Phenylparaconic acid.
Phenylphthalamic acid.
α-Phenylpropane-αaγ-tricarboxylic acid.
Phenylpropiolic acid.
Phenylpropionic acid.
Phenylpyrazolecarboxylic acid.
4-Phenylpyrazole-3:5-dicarboxylic acid.
3-Phenylpyridine-2:6-dicarboxylic acid.
6-Phenyl-2-pyridylacrylic acid.
2-Phenylpyrimidine-6-carboxylic acid.
Phenylpyrrole-2-mono- and -2:5-dicarboxylic acids.
3-Phenylpyrrole-4-carboxylo-5-acetic acid.
Phenylsemicarbazidedicarboxylic acid.
Phenyl*di*thiocarbazinic acid.
Phenylthiocyanoacetic acid.
Phenylthiocyanomalonic acid.
Phenyltolylethersulphonic acids.
1-Phenyl-1:2:3-triazolecarboxylic acids.

Acids. See :—
Phenyltrimethylenedicarboxylic acid.
Phloroglucinolcarboxylic acid.
Phosphomannitic acid.
Photosantonic acids.
Phthalamic acid.
Phthalhydroxylamic acid.
Phthalic acids.
Phthaliminoamylmalonic acid.
Piceapimaric acid.
Picipimarinic acid.
Picipimarolic acids.
γ-Picoline-3:5-di- and -tetra-carboxylic acids.
Picolinic acid.
Picric acid.
Picrolichenic acid.
Pilocarpic acid.
*iso*Pilocarpic acid.
Pilocarpoeic acid.
Pilomalic acid.
Piluvic acid.
Pimelic acid.
Pinenolglycuronic acid.
Piperidine-1-acetic acid.
Piperidinecarbamic acid.
Pivalic acid.
Propaldehyde-ββ-disulphonic acid.
Propanedicarboxylic acid.
Propanetetracarboxylic acid.
Propanetricarboxylic acids.
*iso*Propenyltrimethylenedicarboxylic acid.
Propionic acid.
Propionylacetoacetic acid.
*iso*Propyl*iso*amylacetic acid.
*iso*Propyl*iso*butylsuccinic acid.
4-*iso*Propyldihydroresorcylic acid.
Propylenedicarboxylic acid.
Propylenepentacarboxylic acid.
Propylenetetracarboxylic acid.
Propylenetricarboxylic acids.
β-*iso*Propylglutaric acid.
β-*iso*Propylheptoic acid.
Propylidenebisacetoacetic acid.
*iso*Propyllævulic acid.
Propylmalonamic acid.
4-*iso*Propylphenyldihydro-2-picolone-5-carboxylic acid.
*iso*Propylsuccinanilic acid.
*iso*Propylsuccinic acid.
*iso*Propyltrimethylenedicarboxylic acid.
Protalbic acid.
Protelemic acid.
Protocatechuic acids.
Protolichesteric acid.
Pulegenic acid.
Pulegolacetic acid.
Purpurogallincarboxylic acid.
Pyrazolecarboxylic acids.
Pyrazolone-3-acetic acid.

Acids. See :—
Pyridazyl-3-*p*-benzoic acid.
Pyridinecarboxylic acids.
Pyridine-2:3-dicarboxylic acid.
Pyridine-3:4:5-tri- and -penta-carboxylic acids.
Pyridoylacetic acid.
2-Pyridoylaminocrotonic acid.
2-Pyridoylethylacetic acid.
β-2-Pyridoylpropionic acid.
Pyridylacrylic acid.
2-Pyridylbromopropionic acids.
Pyridylchlorohydroxyquinolsulphonic acid.
3-Pyridylglycine-4-carboxylic acid.
2-Pyridyl-β-propionic acid.
Pyridyltruxillic acids.
Pyrimidine-4:6-dicarboxylic acid.
Pyrindanedionecarboxylic acid.
Pyrogallolsulphonic acid, triethyl ether.
Pyromeconic acid.
Pyromucic acid.
*iso*Pyromucic acid.
Pyroracemic acid.
n-Pyrotartaric acid.
Pyrrolecarboxylic acids.
2-Pyrrolidinecarboxylic acid.
Pyruvic acid.
Pyruvylphenylhydrazonehydroxamic acid.
Pyruvylpyruvic acid.
Quinolinic acid.
Rhamnonic acid.
Rufigallic acid.
Sabinenolglycuronic acid.
Sabinolglycuronic acid.
*iso*Saccharic acid.
Salicylglycollic acid.
Salicylhydroxamic acid.
Salicylic acid.
*iso*Salicylic acid.
Sorbic acid.
Styrylmethanebis-2:5-dimethylpyrrole-3-carboxylic acid.
Succinic acid.
Sulphanilic acid.
Sulphoacetic acid.
m-Sulphobenzoic acid.
Sulphocampholenecarboxylic acid.
Sulphohydroxamic acids.
Sulphosalicylic acid.
Sylvic acid.
Tanacetonedicarboxylic acid.
Tariric acid.
Tartaric acid.
Terephthalic acid.
Terpenylic acid.
Tetrahydroquinolinecarboxylic acids.
Tetrahydroxyhexoic acid.
Tetrahydroxysylvic acid.
Tetrahydroxyvaleric acid.
Tetramethyl*di*aminoacetic acid.

Acids. See :—
Tetramethyl*di*aminodiphenylmethyl-*di*thiocarbamic acid.
Tetramethyl*di*aminomalonic acid.
Tetraoxysylvic acid.
Tetronic acid.
*di*Thiocarbamic acid.
Thiocyanic acid.
α-Thiophencarboxylic acid.
Thujamenthoketonic acid.
Thujonehydrateglycuronic acid.
o-Toluenesulphinic acid.
Toluene-*p*-sulphonic acid.
Toluic acids.
o-Toluidinoacrylic acid.
Toluidinomethylenemalonic acids.
p-Toluidinophosphamic acid.
p-Toluoyltartaric acid.
o-Tolylallophanic acid.
Tolyl-2:5-dimethylpyrrole-3:4-dicarboxylic acids.
Tolylenebis-2:5-dimethylpyrrole-3:4-dicarboxylic acids.
β-*p*-Tolylglutaranilic acid.
β-*p*-Tolylglutaric acid.
p-Tolyl-*m*-hydroxyphenazinesulphonic acid.
p-Tolyl-α-naphthylaminesulphonic acid.
o-Tolyloxamic acid.
Tolyloxaminosulphonic acids.
o-Tolylphthalamic acid.
Tolylthioglycollic acids.
Tolylthiohydantoic acids.
Triacetylgalactonic acid.
Tribenzylamine-*m*-tricarboxylic acid.
Tricarballylic acid.
Triethylbenzenesulphonic acids.
Trihydroxybutyric acid.
αβγ-Trihydroxy-αδ-diphenylvaleric acid.
2:3:8-Trihydroxynaphthalene-6-sulphonic acid.
Trimethylenecarboxylic acid.
Trimethylenetetracarboxylic acid.
Trimethylenetricarboxylic acid.
Trimethylitamalic acid.
2:3:4-Trimethylnicotinic acid.
Trimethylparaconic acid.
Trimethylpentane-βε-olidoic acids.
Trimethylpentanolic acid.
Trimethylquinolinic acid.
Trimethylsuccinic acid.
Triphenylmethanesulphonic acid.
Triticonucleic acid.
Tropic acids.
α-Truxillic acid.
Tyrosine.
Undecoic acids.
Urano-malic and -tartaric acids.
Uric acids.
Usnaric acid.

Acids. See :—
Usnic acids.
Usnidic acid.
Valeric acids.
*iso*Valerylacetic acid.
*iso*Valerylacetoacetic acid.
Variolaric acid.
Veratric acid.
Vinylacetic acid.
Vinylacrylic acid.
Xanthic acid.
Xanthine-4:5-dicarboxylic acid.
Xylenedicarboxylic acid.
m-Xylidinomethylenemalonic acid.
l-Xylonic acid.
Xylylthiolhydantoic acids.

Acids. See also Alkyloxy-acids, Amino-acids, Hydroxy acids, Ketonic acids, Lactonic acids and Pseudo-acids.

Aconitic acid (*propylenetricarboxylic acid*), *mono-* and *di*-cyano-, and their sodium derivatives, ethyl esters (Errera and Perciabosco), A., i, 116.

*iso***Aconitic acid**, ethyl ester, action of halogen-substituted esters of fatty acids on (Guthzeit and Engelmann), A., i, 742.

Acridine syntheses by means of *o*-aminobenzyl alcohol (Ullmann and Baezner), A., i, 694.
derivatives from 1-arylaminoanthraquinones (Farbenfabriken vorm. F. Bayer & Co.), A., i, 501.
methiodide, action of alkalis on (Pictet and Patry), A., i, 644.

Acridine, 5-bromo- and 5-chloro- (Kalle & Co.), A., i, 311.
5-bromo-, 5-chloro-, and 5-iodo-, and their salts (Edinger and Arnold), A., i, 181.
9-iodo- (Kalle & Co.), A., i, 495.

Acridone, *tetra*nitro- (Edinger and Arnold), A., i, 181.

Acyl chlorides, behaviour of certain, towards agents which eliminate hydrogen chloride (Wedekind), A., i, 739.

Acylamines, production of (Dunlap), A., i, 756.

Acylcyanoacetic acids, esters, action of, on diazonium and tetra-azonium chlorides (Favrel), A., i, 406.

Acyl groups, intramolecular migration of (Wislicenus and Körber), A., i, 72.

Acyliminothiocarbonic esters, and **Acylthiocarbamic acids**, action of phenylhydrazine on (Wheeler and Beardsley), A., i, 502.

Acyl-thio- and -ψ-thio-carbamides, molecular rearrangement of unsymmetrical into the isomeric symmetrical (Wheeler), A., i, 444.

Additive products, law governing the formation and decomposition of (MICHAEL and MIGHILL), A., i, 129.
Address, congratulatory, to M. Marcellin Berthelot, P., **1901**, 250.
to the Owens College, Manchester, P., **1902**, 64.
presidential (REYNOLDS), T., 609; P., **1902**, 77.
Adenine, physiological action of (SCHITTENHELM), A., ii, 617.
Adipic acid (*butanedicarboxylic acid*), *αδ-di*bromo-, ethyl ester (WILLSTÄTTER and LESSING), A., i, 561.
Adipic acids, *α-* and *β-*, distinction between (WALLACH and SPERANSKI), A., i, 723.
Adiponitrile (HENRY), A., i, 141.
Adrenalin (TAKAMINE), A., ii, 217; (ALDRICH), A., ii, 518.
Ægirine-augite from the Ilmen Mountains (SUSCHTSCHINSKY), A., ii, 30.
Aërobic fermentation. See Fermentation.
Afamyrin, Afelemic acid, and **Afeleresen** (TSCHIRCH and CREMER), A., i, 813.
AFFINITY, CHEMICAL:—
Association in benzene solution, influence of temperature on (INNES), T., 682; P. **1902**, 26.
Affinity constants of nitroamines and isonitroamines (HANTZSCH and BUCHNER), A., i, 209.
of organic acids, influence of constitution on the (WEGSCHEIDER), A., ii, 494.
Affinities, neutral (SPIEGEL), A., ii, 248.
of acids, method of determining (DAWSON and GRANT), T., 513; P., **1902**, 68.
of the halogenated hydroxybenzoic acid in relation to their constitution (COPPADORO), A., i, 783.
Residual affinity, part played by, in the formation of substitution derivatives (ARMSTRONG and HORTON), P., **1901**, 246.
Dilution law, Ostwald's (VAUBEL), A., ii, 388.
Mass law, limitations of the (BANCROFT), A., ii, 496.
Chemical reactions, instantaneous, and the theory of electrolytic dissociation (KAHLENBERG), A., ii, 301.
influence of electric waves on (LENGFELD and RANSOM), A., ii, 4.
limit of, and of the product *PV* (PONSOT), A., ii, 9.
inhibition of, by foreign substances (YOUNG), A., ii, 387.
produced by radium (BERTHELOT), A., ii, 18.
AFFINITY, CHEMICAL:—
Catalytic actions (RUFF), A., ii, 13.
lecture experiments illustrating various types of (NOYES and SAMMET), A., ii, 498.
of iodine in the bromination of benzene (BRUNER), A., ii, 447.
properties of the hydrogenases (POZZI-ESCOT), A., i, 513.
racemisation of amygdalin (WALKER), P., **1902**, 198.
Catalysis (OSTWALD), A., ii, 197.
of hydrazine (TANATAR), A., ii, 386, 495.
of hydrogen peroxide by colloidal mercury and silver (MCINTOSH), A., ii, 310.
of hydroxylamine (TANATAR), A., ii, 386.
Pseudocatalysis (ENGLER and WÖHLER), A., ii, 127.
Chemical equilibrium, between different degrees of oxidation (MAZZUCCHELLI), A., ii, 119.
simultaneous, and the relations between thermodynamics and velocity of reaction of homogenous systems (WEGSCHEIDER), A., ii, 9.
in the system Bi_2O_3—N_2O_5—H_2O (RUTTEN), A., ii, 386.
of carbon-iron systems (CHARPY and GRENET), A., ii, 209.
between carbonates and bicarbonates in aqueous solution (CAMERON and BRIGGS), A., ii, 64.
conditions of, of deliquescent and hygroscopic salts of copper, cobalt and nickel (HARTLEY), A., ii, 197.
in the reduction of nitric acid by means of nitric oxide (SAPOSCHNIKOFF), A., ii, 16.
between acid salts and sparingly soluble salts (MAGNANINI and GRIMALDI), A., ii, 249.
Equilibrium constants of chemical reactions, method of calculating (FINDLAY), A., ii, 386.
Hydrolysis of esters of carboxylic and sulphonic acids (WEGSCHEIDER), A., ii, 493.
of nitrohydroxylaminic and sulphohydroxamic acids (ANGELI, ANGELICO, and SCURTI), A., i, 765.
Distribution coefficient, application of, to determine the relative affinities of acids (DAWSON and GRANT), T., 513; P., **1902**, 68.
Ratio of distribution of acetic acid between chloroform and water (DAWSON), T., 522; P., **1902**, 69.

AFFINITY, CHEMICAL :—
Ratio of distribution of a base between two acids, method of determining (DAWSON and GRANT), T., 512; P., **1902**, 68.
Partition coefficients, state of dissolved compounds deduced from (HANTZSCH and VAGT), A., ii, 8.
of picric acid between water and toluene, water and ether, and water and amyl alcohol (SISLEY), A., i, 815.
Velocity of **coagulation** of colloidal silicic acid (FLEMMING), A., ii, 646.
Velocity of **combination** of heterocyclic compounds with alkyl bromides (MENSCHUTKIN), A., ii, 493.
Velocity of **decomposition** of ammonium nitrite (ARNDT), A., ii, 64.
of bromosuccinic acid in aqueous solution (MÜLLER), A., ii, 647.
of diazo-compounds (CAIN and NICOLL), T., 1412; P., **1902**, 186, 244.
Velocity of **electrolytic decomposition** of oxalic acid in sulphuric acid (ÅKERBERG), A., ii, 488.
Velocity of **enzyme action** (BROWN), T., 374; P., **1902**, 41.
Velocity of **esterification** of α-, β-, γ-, and δ-halogen derivatives of fatty acids (LICHTY), A., i, 201.
of the two dibenzoylmesitylenic acids (MILLS and EASTERFIELD), T., 1318; P., **1902**, 168.
Velocity of **formation** of simple ethers (ROSENFELD-FREIBERG), A., ii, 492.
Velocity of **hydration** in some inorganic reactions, cause of the influence of positive and negative catalysers on the (ROHLAND), A., ii, 601.
of metaphosphoric acid (J. C. and F. C. BLAKE), A., ii, 197.
of pyrophosphoric acid (MONTEMARTINI and EGIDI), A., ii, 451.
Velocity of **hydrolysis** of acetylated monoses and bioses (KREMANN), A., i, 712.
of starch by diastase (BROWN and GLENDINNING), T., 388; P., **1902**, 43.
Velocity of **intramolecular rearrangement** in halogen-acetanilides (BLANKSMA), A., ii, 646.
Velocity of **inversion** (KULLGREN), A., ii, 647.
of sucrose (BROWN), T., 376; P., **1902**, 41; (v. LIPPMANN), A., i, 84; (HENRI), A., ii, 127.

AFFINITY, CHEMICAL :—
Velocity of **inversion** of sucrose by sucrase, influence of the concentration, of pressure, of neutral salts, and of sodium chloride on (HENRI), A., i, 712.
Velocity of **oxidation** of chromic hydroxide (ANTONY and PAOLI), A., ii, 661.
Velocity of **reactions**, theory of (WEGSCHEIDER), A., ii, 9, 492; (EULER), A., ii, 384.
and thermodynamics, relation between, and simultaneous equilibrium of homogeneous systems (WEGSCHEIDER), A., ii, 9.
in organic solvents (SCHWEINBERGER), A., ii, 126.
of bromine on ethyl alcohol (BUGARSZKY), A., ii, 9.
Velocity of **solution** (DRUCKER), A., ii, 248.
of metals (ERICSON-AURÉN and PALMAER), A., ii, 64.
of solid substances (BRUNER and TOLLOCZKO), A., ii, 62.
Velocity of **substitution** of a halogen by an alkyloxyl group in some aromatic halogen nitro-compounds (LULOFFS), A., i, 87.
Agaric acid, di-*p*-phenetidide of (RIEDEL), A., i, 705.
Agaricic acid, its salts, esters, acetyl derivative, and compound with *p*-phenetidine (SEIDLER and WINZHEIMER), A., i, 487.
AGRICULTURAL CHEMISTRY—
ANIMALS, DAIRY PRODUCTS, FEEDING EXPERIMENTS :—
Agricultural chemistry, relations of absorption to (SCHALLER), A., ii, 226.
Bullocks, value of condiments in the feeding of (VOELCKER), A., ii, 348.
Cows, studies on the feeding of (JORDAN, JENTER, and FULLER), A., ii, 579.
studies on the feeding of, in Connecticut (PHELPS), A., ii, 579.
See also Butter, Milk, and Feeding Experiments.
Dogs, feeding experiments on, with nitrogenous materials (KORNAUTH), A., ii, 674.
See also Main Index.
Herbivora, metabolism of calcium, magnesium, and phosphorus in (TANGL), A., ii, 272.
Horses, metabolism in (PFEIFFER; ZUNTZ and HAGEMANN), A., ii, 272.
molasses foods for (GAROLA), A., ii, 285.

AGRICULTURAL CHEMISTRY: ANIMALS:—
Pigs, feeding experiments on, with bran, meat meal, rye, and sugar (KLEIN), A., ii, 579.
Ruminants, utilisation of gluten proteid by (KELLNER), A., ii, 168.
DAIRY PRODUCTS:—
Butter, influence of the growth of mould on the chemical composition of (CRAMPTON), A., ii, 709.
amount of volatile fatty acids in the fat of (VIETH), A., ii, 348.
decomposition of the fat of, by micro-organisms (LAXA), A., ii, 97.
Bulgarian, from buffaloes and sheep (PETKOW), A., ii, 114.
rancidity of (JENSEN), A., ii, 468.
See also Feeding Experiments.
methods of analysis. See Main Index.
Cheese, Emmenthaler, constituents of (WINTERSTEIN and THÖNY), A., ii, 687.
Colostrum, composition of (SUTHERST), A., ii, 677.
Milk, composition of (RICHMOND), A., ii, 182, 677.
skimmed, composition of (BORDAS and DE RACZKOWSKI), A., ii, 678.
variations in the composition of, during milking (ACKERMANN), A., ii, 168, 466.
specific heat of (FLEISCHMANN), A., ii, 518.
relation between specific gravity, fat, and solids not fat in (LEONARD), A., ii, 183.
variation of the amount of fat in (MALPEAUX and DOREZ), A., ii, 40.
effect of feeding on the amount of fat in (MALPEAUX and DOREZ), A., ii, 168; (MALPEAUX and DELATTRE), A., ii, 526; (SJOLLEMA), A., ii, 527.
variation in the amount of phosphoric acid in, according to the period of lactation (BORDAS and DE RACZKOWSKI), A., ii, 626.
calculation of the simultaneous addition of water to, and withdrawal of cream from (GÉNIN), A., ii, 183.
action of rennin on (FULD), A., ii, 415.
digestibility of, compared with human milk and its substitutes (TUNNICLIFFE), A., ii, 673.
effect of freezing on (BORDAS and DE RACZKOWSKI), A., ii, 158.
effect of work on (MOERMAN), A., ii, 626.

AGRICULTURAL CHEMISTRY: DAIRY PRODUCTS:—
Milk, heated, the film of (RETTGER), A., ii, 519.
alcohol in (TEICHERT), A., ii, 348.
the enzyme in (LOEW), A., i, 732.
presence of nitrates in, as an indication of adulteration (GERBER and WIESKE), A., ii, 540.
proteids of (SIMON), A., ii, 95.
liberation of a volatile sulphide from, on heating (RETTGER), A., ii, 218.
study of lactic fermentation of, by observations of electrical resistance (LESAGE and DONGIER), A., ii, 343.
abnormal (WAUTERS), A., ii, 541.
decrease in the acidity of (KIRSTEN), A., ii, 365, 540.
of goats and sheep, feeding experiments with fat on the amount and composition of the (BEGER, DOLL, FINGERLING, HANCKE, SIEGLIN, ZIELSTORFF, and MORGEN), A., ii, 101.
sheep's, composition of (TRILLAT and FORESTIER), A., ii, 574.
See also Cows and Feeding Experiments.
methods of analysis. See Main Index.
FEEDING EXPERIMENTS:—
Brewers' grains, dried, production of (DIETRICH), A., ii, 166.
Brandy residues, dried (DIETRICH), A., ii, 285.
Condiments, feeding value of (VOELCKER), A., ii, 348.
Distillery grains, dried (DIETRICH), A., ii, 166.
Fat, feeding experiments with, on the amount and composition of the milk of goats and sheep (BEGER, DOLL, FINGERLING, HANCKE, SIEGLIN, ZIELSTORFF, and MORGEN), A., ii, 101.
Maize, digestion of, by fowls (PARASCHTSCHUK), A., ii, 525.
Molasses as food for horses (GAROLA), A., ii, 285.
Molasses foods, keeping properties and storage of (SCHULZE), A., ii, 579.
Nitrogenous materials as food for dogs (KORNAUTH), A., ii, 674.
Phosphorus, feeding value of (KORNAUTH), A., ii, 674.
Rye, mill refuse of (OTTO), A., ii, 687.
Sweet potato meal as cattle food (BONNIN), A., ii, 42.
Sunflower cake (WINDISCH), A., ii, 687.

AGRICULTURAL CHEMISTRY: FEEDING EXPERIMENTS:—
Wheat, mill refuse of (OTTO), A., ii, 687.

PLANTS.

PLANT COMPOSITION AND METABOLISM:—
Plants, influence of carbon dioxide in the air, on the form and internal structure of (FARMER and CHANDLER), A., ii, 683.
influence of the sun on (BERTHELOT), A., ii, 421.
relative power of, to utilise the phosphoric acid of crude phosphates (KOSSOWITSCH), A., ii, 689.
nutrition of, with phosphorus (SCHLŒSING), A., ii, 220.
nutrition of, at the expense of the cotyledons (ANDRÉ), A., ii, 99.
mode of utilisation of tertiary carbon by (MAZÉ), A., ii, 578.
mode of utilisation of ternary nourishment by (MAZÉ), A., ii, 577.
do leucine and tyrosine serve as nutrients for? (SCHULZE), A., ii, 165, 280.
mechanism of esterification in (CHARABOT and HÉBERT), A., ii, 99.
chemical modifications in, under the influence of sodium chloride (CHARABOT and HÉBERT), A., ii, 346.
mechanism of the chemical changes in, subjected to the influence of sodium nitrate (CHARABOT and HÉBERT), A., ii, 523.
rise of colouring matters in (GOPPELSROEDER), A., ii, 424.
amino-acids from (SCHULZE and WINTERSTEIN), A., i, 595.
simultaneous occurrence of araban and xylan in (BROWNE and TOLLENS), A., ii, 420.
occurrence of berberine in (GORDIN), A., ii, 368.
cyanogenesis in (DUNSTAN and HENRY), A., ii, 578.
presence of rennet in (JAVILLIER), A., ii, 625.
conditions of proteid formation in (ZALEWSKI), A., ii, 348.
importance of nitrogen in the synthesis of proteids in (CZAPEK), A., ii, 280.
ammonium as direct source of nitrogen for (KOSSOWITSCH), A., ii, 684.
assimilation of nitrogen by (BREFELD), A., ii, 344.

AGRICULTURAL CHEMISTRY: PLANTS:—
Plants, green, assimilation of, as compared with that of Fungi (BOKORNY), A., ii, 345.
etiolated, effect of temperature on mineral absorption by (ANDRÉ), A., ii, 419.
methods of analysis. See Main Index.

PLANTS:—
Cell-life, function of peroxides in (CHODAT and BACH), A., ii, 344; (BACH and CHODAT; LOEW), A., ii, 522.
Cells, wood, permanent action which tends to produce a negative tension in (DEVAUX), A., ii, 624.
Chlorophyll (MARCHLEWSKI), A., i, 387.
changes undergone by, in passing through the bodies of animals (SCHUNCK), A., i, 301.
Chlorophyllous assimilation (HARROY), A., ii, 165; (HERZOG), A., ii, 578.
in the autumn (FRIEDEL), A., ii, 99.
in leaves when the upper or under sides are exposed to light (GRIFFON), A., ii, 624.
Leaves, influence of varying amounts of carbon dioxide in the air on the photosynthetic process of (BROWN and ESCOMBE), A., ii, 682.
insolated, decomposition of carbon dioxide by (DEHÉRAIN and DEMOUSSY), A., ii, 624.
Nodules, effect of manures on the development of, on leguminous plants (LAURENT), A., ii, 167.
influence of nutritive salts on the production of, on peas (MARCHAL), A., ii, 167.
Root parasites, formation of, from common Bacteria (LEPOUTRE), A., ii, 467.
Roots, chemical reaction on the surface of (RACIBORSKI), A., ii, 419.
number and depth of, with different manures (v. SEELHORST), A., ii, 524.
action of metallic copper on (LEHMANN), A., ii, 420.
Seeds, germinating, enzymes in (BOKORNY), A., ii, 418.
oleaginous, protein grains in (GRAM), A., ii, 684.
resting, action of chloroform vapour on (SCHMID), A., ii, 683.
Shoots, formation of asparagine in the metabolism of (SUZUKI), A., ii, 684.
Respiration of plants (FLIOROW), A., ii, 344; (PURJEWICZ), A., ii, 345.

AGRICULTURAL CHEMISTRY: PLANTS:—
Respiration of hydrogen and hydrocarbons (POLLACCI), A., ii, 99.
of resting plants (KOLKWITZ), A., ii, 623.
of seeds, influence of mineral salts on the, during germination (KRZEMIENIEWSKI), A., ii, 418.
Plant food, study of the available mineral, in soils (MOORE), A., ii, 422.
See also Main Index.
Plant growth, certain relations of, to ionisation of the soil (PLOWMAN), A., ii, 683.
relations of calcium and magnesium to (MAY), A., ii, 346, 623; (LOEW), A., ii, 350, 685; (LOEW and MAY), A., ii, 622; (ASŌ; FURATA), A., ii, 689.
influence of calcium salts and sodium chloride on (PETHYBRIDGE), A., ii, 623.
influence of varying amounts of carbon dioxide in the air on (BROWN and ESCOMBE), A., ii, 682.
effect of kainite on (ENNENBACH), A., ii, 622.
influence of potassium on (PETHYBRIDGE; WILFARTH, WIMMER, RÖMER, MAYER, KATZ, and GEISTHOFF), A., ii, 623.
damage done to, by potassium perchlorate (JUNGNER), A., ii, 41.
Germination, variation in the organic matter during (ANDRÉ), A., ii, 165.
transformations of proteids during (ANDRÉ), A., ii, 522.
PLANTS:—
Apples, transpiration of (OTTO), A., ii, 523.
ripening of (OTTO), A., ii, 281.
methods of analysis. See Main Index.
Bananas (LEUSCHER), A., ii, 421.
Barley, manuring experiments with varieties of (HANAMANN), A., ii, 103.
manurial experiments on (ULRICH), A., ii, 525.
manuring experiments on, in heavy marsh soil (LILIENTHAL), A., ii, 42.
effect of various mechanical conditions of the same soil on (VAÑHA), A., ii, 41.
influence of single manures on (VAÑHA), A., ii, 102.
effect of lithium chloride on (VOELCKER), A., ii, 349.

AGRICULTURAL CHEMISTRY: PLANTS:—
Barley, manurial experiments on, with potassium and phosphoric acid (REMY and NEUMANN), A., ii, 524.
Barley seed, soaking of, in solutions of sodium haloids (VOELCKER), A., ii, 349.
Bean seedlings, necessity of lime for (v. PORTHEIM), A., ii, 626.
Beans, manuring experiments on, in heavy marsh soil (LILIENTHAL), A., ii, 42.
Beetroot (sugar), alterations in the composition of, during ripening (ANDRLÍK, STANĚK, and URBAN), A., ii, 526.
relation between the amounts of phosphoric acid and ammonia in (PELLET), A., ii, 526.
effect of deficiencies of potassium, phosphoric acid, and nitrogen on (WILFARTH, RÖMER, and WIMMER), A., ii, 221.
manurial experiments with potassium on, in 1900 (AUMANN), A., ii, 581.
Cassava roots, cultivation and composition of (LEUSCHER), A., ii, 284.
Cereals, changes in nitrogenous substances during the ripening of (NEDOKUTSCHAEFF), A., ii, 281.
lime as a manure for (LOEW), A., ii, 689.
is the form of, influenced by nitrogenous manures? (CLAUSEN), A., ii, 283.
methods of analysis. See Main Index.
Chestnuts, soils suitable for (PICCIOLI), A., ii, 285.
Chicory and the production of leaves (CARPIAUX), A., ii, 524.
Clover, cultivation of, on soils without calcium carbonate (DEHÉRAIN and DEMOUSSY), A., ii, 167.
Dates, germinating, decomposition of carbohydrates in (GRÜSS), A., ii, 522.
Fungi, nitrogenous constituents of certain (WINTERSTEIN and HOFMANN), A., ii, 622.
Hops, cultivation of (REMY and ENGLISCH), A., ii, 168.
manurial experiments on (REMY), A., ii, 349.
Horse chestnut trees, migration in (ANDRÉ), A., ii, 624.
Kohlrabi, manurial experiments with, on sand (OTTO), A., ii, 284.
Leguminosæ, effect of manures on the development of nodules on the roots of (LAURENT), A., ii, 167.
effect of calcium carbonate on (SCHULZE), A., ii, 580.

AGRICULTURAL CHEMISTRY: PLANTS:—
Liliaceæ, composition of the reserve carbohydrates of the proteid of seeds of (DUBAT), A., ii, 99.
Lucerne, cultivation of, on soils with calcium carbonate (DEHÉRAIN and DEMOUSSY), A., ii, 283.
Mangel-wurzels, cultivation of, at Grignon in 1900 and 1901 (DEHÉRAIN and DUPONT), A., ii, 526.
Maranta, cultivation of (LEUSCHER), A., ii, 283.
Oats, effect of different amounts of moisture in the soil and different manures on (LANGER and TOLLENS), A., ii, 41.
See also Main Index.
Orchid tubers, composition of, at different periods (RAMMELBERG), A., ii, 420.
digestion of the mannan of (HÉRISSEY), A., ii, 419.
Peas, influence of nutritive salts on the production of nodules on the roots of (MARCHAL), A., ii, 167.
Phanerogamic parasites, amount of lime in (ASŌ), A., ii, 684.
Piper Famechoni (*kissi powder*), composition of (BARILLÉ), A., ii, 578.
Potatoes, experiments on (FISCHER), A., ii, 350.
manurial experiments with "forty per cent. potassium salts" on, on peat soil (TACKE), A., ii, 687.
influence of manuring on the composition of (SUTHERST), A., ii, 103.
rich in starch, amounts of phosphoric acid and potassium in the ashes and leaves of (SEISSL and GROSS), A., ii, 687.
methods of analysis. See Main Index.
Potato tubers, relation of the chemical constitution and anatomical character to the value of (WATERSTRADT and WILLNER), A., ii, 525.
Prunus, hydrogen cyanide in the buds of (VERSCHAFFELT), A., ii, 523.
Ruscus aculeatus, composition of the seeds of (DUBAT), A., ii, 99.
Rye (BARNSTEIN), A., ii, 525.
manuring experiments on (KÜHN), A., ii, 39.
Sorghum vulgare, hydrogen cyanide from (DUNSTAN and HENRY), A., ii, 578.
Strawberries, composition of (PARIS), A., ii, 348.
presence of salicylic acid in (PORTES and DESMOULIÈRE), A., ii, 40.
lymphagogue action of (MENDEL and HOOKER), A., ii, 520.

AGRICULTURAL CHEMISTRY: PLANTS:—
Sugar cane, localisation of phosphates in the (SPRANKLING), T., 1543; P., **1902**, 196.
Sweet potato (BONNIN), A., ii, 42.
Taxus baccata (yew), composition of the wood and ash of (THOMS), A., ii, 220.
Tobacco. See Main Index.
Tobacco leaves, amount of nicotine, resin, wax, and non-volatile organic acids in, at various periods of their growth (KISSLING), A., ii, 625.
seeds, supposed presence of solanine in (STARKE), A., ii, 166.
Trees, occurrence of methylpentosan in the needles and leaves of (SOLLIED), A., ii, 219.
Vegetables, presence of lecithin in (SCHLAGDENHAUFFEN and REEB), A., ii, 625.
Vines, influence of the sun on (BERTHELOT), A., ii, 421.
nitrogenous manuring of (WAGNER), A., ii, 284.
phosphatic manuring of (PATUREL), A., ii, 284.
Vineyards, high yielding, conditions of vegetation in (MÜNTZ), A., ii, 421.
Weeds, experiments on the prevention of (VOELCKER), A., ii, 350.
Wheat (BARNSTEIN), A., ii, 525.
hard and soft (VOELCKER), A., ii, 349.
hard, composition of, and of its gluten (FLEURENT), A., ii, 102.
effect of lithium chloride on (VOELCKER), A., ii, 349.
composition of the products of grinding, by millstones and by rollers (LINDET), A., ii, 102.
Wheat embryos, triticonucleic acid from (OSBORNE and HARRIS), A., i, 847.
Wheat grain, origin of starch in (DEHÉRAIN and DUPONT), A., ii, 100.
Wheat seed, soaking of, in solutions of sodium haloids (VOELCKER), A., ii, 349.

SOILS.

Soils, sampling of (LEATHER), T., 883; P., **1902**, 125.
bacteriology of (REMY), A., ii, 682.
inoculation of, experiments in the (STOKLASA), A., ii, 285.
nitrification in different (WITHERS and FRAPS), A., ii, 576.
decomposition of nitrogen compounds in, by lower organisms (KRÜGER and SCHNEIDEWIND), A., ii, 39.

AGRICULTURAL CHEMISTRY: SOILS:—
Soils, ionisation of, in relation to plant growth (PLOWMAN), A., ii, 683.
study of the available mineral plant food in (MOORE), A., ii, 422.
effect of lime on the insoluble phosphates in (SUTHERST), A., ii, 471.
effect of various mechanical conditions of the same, on barley (VAÑHA), A., ii, 41.
suitable for chestnuts (PICCIOLI), A., ii, 285.
heavy, green manuring on (HANUSCH), A., ii, 169.
Jamaica, mineral in (LEUSCHER), A., ii, 286.
loamy, conditions of temperature and moisture of, with different crops and different manures (v. SEELHORST), A., ii, 42.
peat, manurial experiments on (v. FEILITZEN), A., ii, 527.
action of potassium manures on (BAUMANN), A., ii, 689.
time for manuring, especially with potassium salts (TACKE), A., ii, 580.
chemical changes in, after several years' cultivation and manuring (v. FEILITZEN), A, ii, 527.
causes of sterility in (DUMONT), A., ii, 169.
Silesian, manurial requirements of (SCHULZE), A., ii, 580.
vegetable (SCHLŒSING), A., ii, 422.
methods of analysis. See Main Index.
Humus, nitrogen of (DOJARENKO), A., ii, 285.
NITRIFICATION, NITROGEN, AND NITROGENOUS COMPOUNDS:—
Nitrification, studies in (LIPMAN), A., ii, 423.
in different soils (WITHERS and FRAPS), A., ii, 576.
Nitrates and **nitrites**, decomposition of, by Bacteria (MAASSEN), A., ii, 39.
Nitrogen, amount of, as ammonia and as nitric acid, in the rain-water collected at Rothamsted (MILLER), P., **1902**, 88.
amount of, as nitrates, in the drainage through uncropped and unmanured land (MILLER), P., **1902**, 89.
value of the, in Pyrenean phosphates (JOFFRE), A., ii, 103.
assimilation of, by plants (BREFELD), A., ii, 344.
free, assimilation of, by soil bacteria without symbiosis with Leguminosæ (KÜHN), A., ii, 38.

AGRICULTURAL CHEMISTRY: SOILS:—
Nitrogen, ammonium as direct source of, for plants (KOSSOWITSCH), A., ii, 684.
manurial value of, in absence of other nutritive substances (WILFARTH), A., ii, 526.
effect of, on nitrates (NOBBE and RICHTER), A., ii, 521.
as nitrates and as ammonia, manurial action of (GERLACH), A., ii, 528.
effect of alinit, cow dung, peat, and straw on the action of (GERLACH), A., ii, 580.
Nitrogen compounds, decomposition of, in soil by lower organisms (KRÜGER and SCHNEIDEWIND), A., ii, 39.
Bacteria, nitrogen-assimilating, in soils (NEUMANN), A., ii, 163.
soil, process for inoculation with (FARBENFABRIKEN VORM. F. BAYER & Co.), A., ii, 164.
assimilation of free nitrogen by, without symbiosis with Leguminosæ (KÜHN), A., ii, 38.
Denitrification (WEISSENBERG), A., ii, 470.

WATER.

Waters, Indian saline (LEATHER), T., 887; P., **1902**, 127.
Drainage water (CREYDT, v. SEELHORST, and WILMS), A., ii, 45.
through uncropped and unmanured land, amounts of nitrogen, as nitrates, and chlorine in the (MILLER), P., **1902**, 89.
Rain-water, amounts of nitrogen as ammonia and as nitric acid, and of chlorine in the, collected at Rothamsted (MILLER), P., **1902**, 88.

MANURES AND MANURING EXPERIMENTS:—
Manures, single, influence of, on barley (VAÑHA), A., ii, 102.
influence of, on the composition of potatoes (SUTHERST), A., ii, 103.
methods of analysis. See Main Index.
Alinit (SCHULZE), A., ii, 344.
Ammoniacal manures, use of, on calcareous soils (GIUSTINIANI), A., ii, 42.
Ammonium salts and sodium nitrate, relative manurial value of (WAGNER), A., ii, 43.
sulphate, after effect of (KLOEPFER), A., ii, 580.
Basic slag, effect of soil moisture on the action of, as compared with bone-meal and superphosphate (v. SEELHORST), A., ii, 580.

AGRICULTURAL CHEMISTRY: MANURES:–
Basic slag, mixtures of martin-slag and degelatinised bone-meal as diluents for (DAFERT and PILZ), A., ii, 103.
Bone-meal, effect of soil moisture on the action of, as compared with basic slag and superphosphate (v. SEELHORST), A., ii, 580.
manurial action of the phosphoric acid of (KELLNER and BÖTTCHER), A., ii, 528.
Calcium and **magnesium**, relation of, to plant growth (MAY), A., ii, 346, 623; (LOEW), A., ii, 350, 689; (LOEW and MAY), A., ii, 622; (ASŌ; FURATA), A., ii, 689.
Calcium compounds, manurial action of some (MEYER), A., ii, 44.
salts, influence of, on plant growth (PETHYBRIDGE), A., ii, 623.
carbide residues as manure (GERLACH), A., ii, 582.
carbonate, effect of, in the soil on the development of leguminous plants (SCHULZE), A., ii, 580.
oxide (*lime*), effect of, on the insoluble phosphates in the soil (SUTHERST), A., ii, 471.
as a manure for cereals (LOEW), A., ii, 689.
necessity of, for seedlings (v. PORTHIEM), A., ii, 626.
and magnesia in burnt lime and marls, experiments with (ULBRICHT), A., ii, 581.
phosphate, precipitated, manurial experiments with (SÖDERBAUM), A., ii, 350.
Excretion of cows, manurial value of (SWEESTER), A., ii, 170.
Farmyard manure, aërobic fermentation of (DUPONT), A., ii, 577.
value of the nitrogen in and its estimation (PFEIFFER, LEMMERMANN, RIECKE, and BLOCH), A., ii, 423.
Green manuring (PITSCH), A., ii, 286.
Guano, Australian bat, minerals in (MACIVOR), A., ii, 460.
Kainite, manurial value of (GERLACH), A., ii, 170.
effect of, as manure on the germination and growth of plants (ENNENBACH), A., ii, 622.
value of "forty per cent. potassium salts" as compared with (MAERCKER and SCHNEIDEWIND), A., ii, 581.
Humous substances, effect of, on the inoculation of leguminous plants (NOBBE and RICHTER), A., ii, 521.

AGRICULTURAL CHEMISTRY: MANURES:–
Magnesium compounds, manurial action of various (MEYER), A., ii, 45.
See also under Calcium.
Peat ash as manure (BOES), A., ii, 471.
Phosphates, insoluble, in the soil, effect of lime on the (SUTHERST), A., ii, 471.
manurial value of various (KELLNER and BÖTTCHER), A., ii, 351.
relative value of different (PRIANISCHNIKOFF), A., ii, 169.
Pyrenean, value of the nitrogen in (JOFFRE), A., ii, 103.
soil, soluble in water (SCHLŒSING), A., ii, 626.
Phosphatic manures, solubility of, in some organic acids (SUTHERST), A., ii, 44.
Phosphoric acid, solution of, in soil water (PATUREL), A., ii, 688.
of crude phosphates, relative power of agricultural plants to utilize (KOSSOWITSCH), A., ii, 689.
Potassium, influence of, on plant growth (PETHYBRIDGE; WILFARTH, WIMMER, RÖMER, MAYER, KATZ, and GEISTHOFF), A., ii, 623.
manurial experiments with, on sugar beet in 1900 (AUMANN), A., ii, 581.
Potassium manures, plot and pot experiments on the value of (SCHULZE), A., ii, 581.
action of, on peat land (BAUMANN), A., ii, 689.
Potassium salts, high per cent., manurial value of (GERLACH), A., ii, 170.
forty per cent., manurial experiments with, on potatoes on peat soil (TACKE), A., ii, 687.
value of forty per cent., as compared with kainite (MAERCKER and SCHNEIDEWIND), A., ii, 581.
Sodium chloride, influence of, on plant growth (PETHYBRIDGE), A., ii, 623.
nitrate and ammonium salts, relative manurial value of (WAGNER), A., ii, 43.
manurial experiments with, in the red wine district of Ahrthal (KULISCH), A., ii, 43.
Superphosphate, effect of soil moisture on the action of, as compared with basic slag and bone-meal (v. SEELHORST), A., ii, 580.
free acid in (OSTERSETZER), A., ii, 473.
Manuring experiments (SEBELIEN), A., ii, 44.

Air. See Atmospheric air.
Alanine, derivative of (FISCHER), A., i, 350.
Alanylalaninecarboxylic acid, ethyl ester (FISCHER), A., i, 351.
Albaspidin, constitution of (BOEHM), A., i, 38.
Albumin, the chemistry of (KOSSEL; SALKOWSKI), A., i, 128.
and salts, molecular concentration of solutions of (FREDERICQ), A., ii, 646.
decomposition of (DENNSTEDT), A., i, 128.
fission of, by papayotin (EMMERLING), i, 407, 408.
formation of carbamide by the oxidation of (JOLLES), A., i, 331.
crystalline, from the white of crows' eggs (WORMS), A., i, 65.
from yolk of egg, carbohydrate groups in (NEUBERG), A., i, 192.
crystalline, from the serum of horses' blood (MAXIMOWITSCH), A., i, 66.
new test for, in urine (POLLACCI), A., ii, 369.
Albumin, acid-, estimation of, in digestive mixtures (HAWK and GIES), A., ii, 635.
Albumin, egg-, formation and estimation of iodic and hydriodic acids in the iodination of (SCHMIDT), A., i, 251.
action of alkali hydroxides on (PAAL), A., i, 653.
acetone from crystallised (ORGLER), A., i, 407.
phosphoric acid esters from (BECHHOLD), A., i, 331.
Albumins of white of egg (LANGSTEIN), A., i, 65.
detection of, in urine (PORTES and DESMOULIÈRE), A., ii, 236.
Albumins, nitrated (LOEW), A., i, 65.
Albumin-like substances, synthesis of (WALTHER), A., i, 203.
Albuminoids. See Proteids.
Albumoid of bone (HAWK and GIES), A., i, 408; ii, 518.
Albumose, crystalline urinary (GRUTTERINK and DE GRAAFF), A., ii, 276.
Glyco-albumose and **Thio-albumose** (PICK), A., ii, 673.
Albumoses, change produced in, by the gastric mucous membrane (GLAESSNER), A., i, 156.
action of papain and rennin on (KURAÉEFF), A., i, 731.
Alcaptonuria (MITTELBACH), A., ii, 160; (MEYER), A., ii, 417.
Alcohol. See Ethyl alcohol.
Alcohol, $C_6H_{14}O$, from the hydrocarbon C_6H_{12} (DELACRE), A., i, 79.
Alcohol, $C_8H_{16}O$, from the action of nitrous acid on the amine $C_8H_{17}N$ (SPERANSKI), A., i, 342.
$C_9H_{16}O$, from the action of sodium on tetrahydro-*p*-tolyl methyl ketone (WALLACH and RAHN), A., i, 723.
$C_9H_{18}O$, from the reduction of pulegenone (WALLACH and THEDE), A., i, 724.
$C_{25}H_3ON_3$, ethers of, and compound of, with phenol (FISCHER and WEISS), A., i, 402.
Alcoholic fermentation. See Fermentation.
liquids, estimation of fusel oil in (BECKMANN), A., ii, 178.
Alcohols, synthesis of, by means of magnesium organic compounds (GRIGNARD), A., i, 142; (KONOWALOFF), A., i, 336.
formation of, by the electrolysis of salts of the fatty acids (HOFER and MOEST), A., i, 736.
decomposition of (NEF), A., i, 8.
etherification of (FISCHER and WEISS), A., i, 402.
quantitative etherification and estimation of (VERLEY and BÖLSING), A., ii, 54.
action of, on the sodium compounds of other alcohols (GUERBET), A., i, 657.
action of, on esters (HENRY), A., i, 736.
action of, on quinone (KNOEVENAGEL and BÜCKEL), A., i, 106.
action of zinc methyl on (TOLKATSCHEFF), A., i, 9.
transformation of, into unsaturated hydrocarbons (ZELINSKY and ZELIKOFF), A., i, 2.
Alcohols, cyclic, heat of combustion of (ZUBOFF), A., i, 144.
tertiary, syntheses of, by means of organo-magnesium compounds (ZELINSKY and GUTT), A., i, 70.
Alcohols, fatty, higher, condensation of (MARKOWNIKOFF and ZUBOFF), A., i, 5.
monohydric, and their ethers and metallic derivatives, dissociation of (NEF), A., i, 6.
and their aqueous solutions, flashing points of (RAIKOW), A., i, 583.
Alcohols, lower, properties of mixtures of, with benzene, and with benzene and water (YOUNG and FORTEY), T., 739; P., **1902**, 105.
properties of mixtures of, with water (YOUNG and FORTEY), T., 717; P., **1902**, 105.
Alcohols, primary, synthesis of (GRIGNARD and TISSIER), A., i, 198; (BLAISE), A., i, 357.

Alcohols, secondary, with an acetylenic linking, synthesis of (MOUREU and DESMOTS), A., i, 289.
action of nitric acid on (PONZIO), A., i, 134.
Alcohols, unsaturated, and saturated glycols, isomerisation of (LIEBEN), A., i, 336; (KONDAKOFF), A., i, 583.
Alcohols and **Phenols**. See also:—
7-Acetoxy-2-phenyl-4-benzyl-1:4-benzopyranol.
4-Acetylaminophenol.
Acetylcarbinol (*acetol*).
Allyl alcohol.
β-Allylbenzene glycol.
Amyl alcohols.
Anthragallol.
Anthranols.
Arabitol.
Aspidinol.
Benzhydrol.
Benzhydryl-5-fluorenol.
1:4-Benzopyranols.
4-Benzoylaminophenol.
Benzoylthymol.
6-Benzoyl-1:2:4-xylenol.
6-Benzoyl-1:4:2-xylenol.
Benzyl alcohol.
Boletol.
Borneols.
Butyl alcohols.
Butylene chlorohydrins.
α-*iso*Butyl-β-*iso*propyltrimethylene glycol.
Camphanylcarbinol.
Camphenylcarbinol.
Camphyl glycols.
Catechol.
*iso*Chavibetol.
Chlorohydrins.
Cholesterols.
Chrysanthrol.
Cineol.
Cresols.
ψ-Cumenol.
Decinyl alcohol.
Decyl alcohol.
αγ-Decylene glycol.
Dehydrocamphylcarbinol.
Dehydromenthylcarbinol.
Dehydropyrodypnopinacolyl alcohol.
Dibutyl alcohol.
Diethylcarbinol.
Diheptyl alcohol.
Dihydro*iso*phoryl glycols.
1:5-Dihydroxyanthranol.
Dihydroxydibenzylmesitylene.
Dihydroxy-2:4-diphenyl-1:4-benzopyranols.
2:4′-Dihydroxydiphenylmethane.
Dihydroxyhexane.
Dihydroxyhydroanthranols.
Alcohols and **Phenols**. See:—
Dihydroxymethyl*tert*butylallylcarbinol.
2:3-Dihydroxynaphthalene.
Dihydroxynonane.
9:10-Dihydroxyphenanthrene.
Dihydroxy-2-phenyl-1:4-benzopyranols.
Dihydroxy-2-phenyl-4-benzylidene-1:4-benzopyranols.
Dimethoxyanhydroglycogallol.
αβ-Dimethoxydihydro*iso*eugenol.
2:4-Dimethoxydimethyl-3-methyl- and -5-bromomethyl-1-phenol.
3:5-Dimethoxy-2-methylcarbinol-6-aminophenol.
Dimethoxy-2-phenyl-4-benzylidene-1:4-benzopyranols.
Dimethyl*iso*amylcarbinol.
Dimethylheptenol.
βε-Dimethylhexane-βε-diol.
1:3-Dimethyl*cyclo*hexanol.
Dimethylhydroxyethylamine.
2-α-Dimethylolethylquinoline.
2-Dimethylolmethyl-3-methylquinoline.
Dimethylpentadecylcarbinol.
1:3-Dimethyl*cyclo*pentanol.
Dimethylpinacone.
Dinaphthapyranol.
Dinaphthaxanthhydrol.
Dinaphthylene glycol.
2:2′-Diphenol.
Diphenylacetylenecarbinol.
Diphenyl-*p*-anisylcarbinol.
αε-Diphenyl-α-pentanol.
Dipicraminophenol.
2:5-Dipropyloxyquinol.
Durylene glycol.
Erythritols.
Ethanolmethylamine.
Ethyl alcohol.
Ethylcatechol.
Ethylene glycol.
Ethylphenols.
3-Ethylpiperidyl-4-ethanol.
3-Ethylpyridyl-4-ethanol.
3-Ethyl-4-pyridylpropanediol.
Eugenol.
*iso*Eugenol.
Fenchyl alcohol.
Furfuryl alcohol.
α-Furfuryl-β-octinyl alcohol.
α-Furfuryl-β-octinylcarbinol.
Furfurylphenylacetylenecarbinol.
Geraniol.
Gluco-*o*-hydroxyphenylethylcarbinol.
Glycerol.
Guaiacol.
γ-*iso*Heptanol.
Heptylene glycol.
Hexahydroxydiphenyl.

Alcohols and **Phenols.** See :—
βε-Hexanediol.
Hexyl alcohols.
Hexylene glycol.
*p-cyclo*Hexylphenol.
Hydro-α-anthrol.
Hydrobenzoin.
Hydroquinizarol.
p-Hydroxybenzyl alcohol.
1-α-Hydroxybenzyl-4-methyl*cyclo*hexanol-2.
4-α-Hydroxybutyl-1:3-dimethylbenzene.
2-α-Hydroxybutyl-1:3:5-trimethylbenzene.
1-Hydroxycamphene.
Hydroxy-ψ-cumyl alcohols.
Hydroxy-ψ-cumylene *m*-glycol.
Hydroxydibenzylanthracene.
α-Hydroxydihydro*iso*eugenol.
7-Hydroxy-2-*p*-dimethylanilinonaphthalene.
4-α-Hydroxyethyl-1-ethylbenzene.
4-α-Hydroxyethyl-1-mono- and -1:3-dimethylbenzenes.
Hydroxyethylnitrocarbamide.
α-Hydroxy-*p*-ethylphenol.
α-Hydroxyhexadecyl-1:3-di- and -1:3:5-tri-methylbenzenes.
Hydroxyhydroanthranol.
Hydroxymesitylene.
α-Hydroxy-β-methoxydihydro*iso*eugenol.
Hydroxyphenanthrenes.
Hydroxyphenoxozone.
7-Hydroxy-2-phenyl-1:4-benzopyranol.
7-Hydroxy-2-phenyl-4-benzylidene-1:4-benzopyranol.
7-(or 5-)Hydroxy-2-phenyl-4-benzylidene-5-(or 7-)methyl-1:4-benzopyranol.
o-Hydroxyphenylethylcarbinol.
Hydroxyphenylpyridazine.
2-Hydroxy-3-phenylquinoxaline.
4-α-Hydroxypropyl-1-methylbenzene.
2-α-Hydroxypropyl-1:3:5-trimethylbenzene.
Hydroxytetraphenylmethane.
2-Hydroxy-1:3:5-trimethylbenzene.
p-Hydroxytriphenylcarbinol.
p-Hydroxytriphenylmethane.
Hydroxy-xylene.
d-Linalol.
Mannitol.
Menthol.
Menthylcarbinol.
Menthyl glycol.
2:3-Methoxynaphthol.
3-Methoxyphenol.
7-Methoxy-2-phenyl-1:4-benzopyranol.

Alcohols and **Phenols.** See :—
7-Methoxy-2-phenyl-4-benzylidene-1:4-benzopyranol.
7-(or 5-)Methoxy-2-phenyl-4-benzylidene-5-(or 7-)-methyl-1:4-benzopyranol.
p-Methoxytriphenylcarbinol.
Methyl alcohol.
m-Methylbenzenyl-*p*-amino-*m*-thioxylenol.
Methyl*di*bromoxyloquinol.
Methylenebisdimethylphloroglucinol.
Methylethylbutylcarbinol.
1-Methyl-3-ethyl*cyclo*pentanol-3.
Methylheptenol.
Methyl-β-heptinylcarbinol.
Methylheptylcarbinol.
Methylnonylcarbinol.
Methyl-β-octinylcarbinol.
2-α-Methylolethyl-3-methylquinoline.
β-Methylpentane-βδ-diol.
Methyl*cyclo*pentanols.
Methylphloroglucinol.
Methylpropylcarbinol.
ε-Methyl-β-*iso*propyl-αγ-hexylene glycol.
1-Methyl-4-ψ-quinol.
Naphthols.
Noninyl alcohol.
Nonyl alcohol.
Octenyl alcohol.
Octyl alcohols.
Octylene glycols.
Pentaerythritol.
Phenanthraquinol.
2-Phenanthrol.
Phenol.
Phenols.
ψ-Phenols.
Pheno-α-naphthaxanthhydrol.
Phenylacetylenemethylcarbinol.
5-Phenyl-3:5-dimethylphenonaphthacridol.
α-Phenyl-β-heptinyl alcohol.
1-Phenyl-3-methylbenziminazoleol.
Phenylmethylpropylcarbinol.
α-Phenyl-β-octinyl alcohol.
Phloroglucinol.
Phytosterol.
Pinacone.
Propyl alcohols.
*cyclo*Propyldimethylcarbinol.
Propylene glycol.
Pulenol.
Pyridyl*di*chlorohydroxyquinol.
2-Pyridylmethylcarbinol.
2-Pyridylpropanediol.
Pyrodypnopinacol alcohol.
Pyrogallol.
Quinol.
ψ-Quinols.
Resorcinol.

Alcohols and Phenols. See :—
Rhamnitol.
Sabinene alcohol.
Saligenin.
Sitosterol.
Storesinol.
Styresinol.
Styrylmethylcarbinol.
Terpene alcohols.
$\Delta^{3:9}$-Terpen-1-ol.
Terpineols.
Tetra-acetylgluco-*o*-hydroxyphenylethylcarbinol.
Tetra-acetylmannitol.
Tetramethyl*di*aminobenzhydrol.
1:3:4:5-Tetramethylbenziminazoleol.
Thymol.
Toluquinol.
p-Tolylamino-*m*-hydroxybenzyl alcohol.
Trianisylcarbinol.
*sec*Tricapryl alcohol.
1:8:9-Trihydroxyhexahydrocymene.
2:3:8-Trihydroxynaphthalene.
1:8:9-Trihydroxyterpane.
Trihydroxyterpineol.
3:5:5-Trimethyl-$\Delta^{2:6}$-dihydrocatechol.
Trimethylenecarbinol.
2:4:4-Trimethyl*cyclo*hexanol.
Triphenylcarbinol.
Tripropylcarbinol.
Undecane-$\beta\gamma$-diol.
Undecyl alcohol.
p-Vinylphenol.
Xanthhydrol.
Xylenols.
Xyloquinhydrone.
Xyloquinols.

Alcohols. See also Glycols.
Paraldehyde, action of, on *o*-nitrosobenzoic acid (CIAMICIAN and SILBER), A., i, 378.

Aldehydehydrazones, nitro-, reduction of (BAMBERGER and FREI), A., i, 404.

Aldehydes, R·CHMe·CHO, preparation of (BOUGAULT), A., i, 452.
formation of, by the electrolysis of salts of the fatty acids (HOFER and MOEST), A., i, 736.
formation of, from β-chloro-alcohols (KRASSUSKY), A., i, 425.
formation of, from hydrochlorides of imino-ethers (HENLE), A., i, 790.
formation of, from haloid derivatives of olefines (KRASSUSKY), A., i, 261.
synthesis of (BOUVEAULT and WAHL), A., i, 532.
isolation of (CHEMISCHE FABRIK VON HEYDEN), A., i, 376; (NEUBERG and NEIMANN), A., i, 572; (FREUND and SCHANDER), A., i, 696.

Aldehydes, behaviour of, towards Tesla rays (KAUFFMANN), A., ii, 191.
reduction-potential of (BAUR), A., i, 77.
decomposition of (NEF), A., i, 8.
interaction of, with acid chlorides (LEES), P., **1902,** 213.
action of acid chlorides on, in presence of zinc chloride (DESCUDÉ), A., i, 149, 339, 451.
condensation of, with ethyl cyanoacetate (GUARESCHI), A., i, 819.
action of, on hydramines (KNORR and MATTHES), A., i, 56.
action of, on hydrazobenzene and its substitution derivatives (RASSOW and RÜLKE), A., i, 404.
condensation of, with acetylenic hydrocarbons (MOUREU and DESMOTS), A., i, 289.
condensation of, with methylamine and ethylamine (ANDREE), A., i, 210.
additive compounds of, with phenylhydrazine-*p*-sulphonic acid (BILTZ, MAUÉ, and SIEDEN), A., i, 571.
action of, on 6-phenyl-2-methylpyridine (THORAUSCH), A., i, 234; (OLLENDORFF), A., i, 827.
test for, in urine (RIEGLER), A., ii, 585.

Aldehydes of the acetic series, synthesis of, by means of nitromethane (BOUVEAULT and WAHL), A., i, 591.

Aldehydes, aromatic, influence of intranucleal substituents on the reactivity of (POSNER), A., i, 622.
action of solid alkalis on (RAIKOW and RASCHTANOW), A., i, 721.
condensation of, with amines (DIMROTH and ZOEPPRITZ), A., i, 292.
condensation of, with malononitrile (WALTER), A., i, 373.
condensation of, with nitromethane (BOUVEAULT and WAHL), A., i, 682.
condensation of, with pyrroles and ethereal pyrrolecarboxylates (FEIST), A., i, 490; (VORLÄNDER), A., i, 562.
acetates from (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i., 102.

Aldehydes. See also :—
Acetaldehyde.
Acetaldol.
Aldol, $C_{13}H_{16}O_2$.
Anisaldehyde.
Aromadendral.
Benzaldehyde.
Benzylidenedivanillin.
Berberinaldehyde.
Bromal.
Butaldehydes.
Camphenaldehyde.
Carbonylchloroaldehydes.
Chloral.

Aldehydes. See :—
Cinnamaldehyde.
*cyclo*Citrals.
Cuminaldehyde.
n-Decaldehyde.
3:4-Dimethoxyhydratropaldehyde.
Dimethoxymethylenedioxyhydratropaldehyde.
p-Dimethylaminobenzaldehyde.
Diphenylacetaldehyde.
αβ-Diphenyl-**αα**-diphenylthiolethane-2-al.
m-Ethoxybenzaldehyde.
Formaldehyde.
Furfuraldehyde.
Heptaldehyde.
*iso*Hexaldehyde.
Hydroxyaldehydes.
Hydroxybenzaldehydes.
Hydroxymethylsalicylaldehyde.
Malonic dialdehyde.
Mesoxalic semi-aldehyde.
Metaformaldehyde.
o-Methoxybenzaldehyde.
p-Methoxyhydratropaldehyde.
Methylglyceraldehyde.
2-Methyl-5-*iso*propyl-tetra- and -hexahydrobenzaldehyde.
Methylsalicylaldehyde.
n-Nonaldehyde.
n-Octaldehyde.
Œnanthaldehyde.
Paraldehyde.
Paraldol.
β-Phenylpropaldehyde.
Piperonal.
8-Quinolinealdehyde.
Succinaldehyde.
Succindialdehyde.
Tolualdehydes.
2:2:4-Trimethyl-tetra- and -hexahydrobenzaldehyde.
Trioxymethylene.
*iso*Valeraldehyde.
Vanillin.

β-Aldehydic acids, optically active esters of (LAPWORTH and HANN), T., 1491, 1499; P., **1902**, 144, 145.

Aldehydo*tri*chloroquino*di*chloride, and its oxime and semicarbazone (BILTZ and KAMMANN), A., i, 162.

***p*-Aldehydohydrazobenzene**, anilide of (ALWAY), A., i, 697.

2-Aldehydo-5:6-methoxybenzoyl chloride (*opianic chloride*) (MEYER), A., i, 31.

8-Aldehydonaphthoic acid (*naphthaldehydic acid*), and its methyl ester (ZINK), A., i, 159.
condensation of, with acetone and with acetophenone (ZINK), A., i, 34.

Aldol, $C_{13}H_{16}O_2$, from cinnamaldehyde and isobutaldehyde (MICHEL and SPITZAUER), A., i, 292.

Aldol (*acetaldol*), viscid, and **Paraldol** (NOWAK), A., i, 260.

Alga, green, assimilation of carbon by a (CHARPENTIER), A., ii, 419.

Algæ, the wax of, and its relation to petroleum (KRAEMER and SPILKER), A., i, 333.
fresh-water, effect of methylal on (BOUILHAC), A., ii, 40.

Alinit. See Agricultural Chemistry.

Alizarin methyl ether (GRAEBE and ADERS), A., i, 43.

Alizarin, **α**-amino-, acetyl and benzoyl derivatives of (SCHULTZ and ERBER), A., i, 299.
β-amino-, dibenzoyl derivative of (SCHULTZ and ERBER), A., i, 299.
bromo-**β**-amino- (BADISCHE ANILIN- & SODA-FABRIK), A., i, 477.

Alkali, reaction of, with chloral hydrate (BÖTTGER and KÖTZ), A., i, 659.
free, titration of, in presence of nitrites (ARNDT), A., ii, 630.

Alkali carbonates, action of higher fatty acids on (KLIMONT), A., i, 132.
hydroxides, silicates and sulphates, analysis of mixtures of (LUNGE and LOHÖFER), A., ii, 105.
chlorides, electrolysis of, with carbon anodes (SPROESSER), A., ii, 193.
electrolysis of, with platinised electrodes (FOERSTER and MÜLLER), A., ii, 640.
electrolysis of solutions of, current and energy efficiencies obtained in the (FOERSTER and MÜLLER), A., ii, 240.
decomposition of (VOLNEY), A., ii, 70.
compounds of, with aluminium chloride (BAUD), A., ii, 142.
cyanamides (DEUTSCHE GOLD- & SILBER-SCHEIDE-ANSTALT), A., i, 354.
hydroxides, behaviour of picric acid towards boiling (WEDEKIND and HAEUSSERMANN), A., i, 367.
or hydrogen carbonate, estimation of, in presence of normal alkali carbonate (RIDENOUR), A., ii, 49; (NORTH and LEE), A., ii, 356.
metals, peroxides of (CALVERT), A., ii, 10.
thiocyanates, action of mercuric bromide on the (GROSSMANN), A., i, 749.
works, electrical, analyses required for (JAMES and RITCHEY), A., ii, 474.

Alkalimeter, new form of (DAVIS), A., ii, 428.

Alkalimetry, gasometric method for (RIEGLER), A., ii, 696.
Alkaline-earth metals, arsenides of (LEBEAU), A., ii, 395.
sulphides, phosphorescence of (DE VISSER), A., ii, 237.
Alkali-proteid, globulin as (WOLFF and SMITS), A., i, 67.
Alkalis, normal, in acidimetry (JUNG-CLAUSSEN), A., ii, 46.
solid, action of, on aromatic aldehydes (RAIKOW and RASCHTANOW), A., i, 721.
microchemical test for acids and (EMICH), A., ii, 45.
estimation of, in Portland cement and natural cements (STILLMAN), A., ii, 175.
indirect estimation of, in waters (FISHER), A., ii, 474.
Alkaloidal salts, extraction of, from aqueous solutions (SPRINGER), A., ii, 542.
Alkaloids of *Argemone mexicana* (SCHLOTTERBECK), A., ii, 101.
of *Corydalis cava* (GADAMER, ZIEGENBEIN, and WAGNER), A., i, 306, 391.
of *Solanum chenopodinum* (SAGE), A., ii, 282.
of *Stylophorum diphyllum* (SCHLOTTERBECK and WATKINS), A., ii, 101.
extraction of, from acid solutions (SPRINGER), A., ii, 542.
extraction of, from alkaline liquids (SPRINGER), A., i, 390.
action of Caro's reagent on (SPRINGER), A., i, 485.
intensifying action of, on oxidising agents (SCHAER), A., ii, 140, 603.
natural immunity against (ELLINGER), A., ii, 162.
compounds of, with thallic haloids and hydracids (RENZ), A., i, 393, 822.
limits of sensitiveness of precipitants of (SPRINGER), A., ii, 543.
diacid, the alkalimetric factors of some (GORDIN), A., ii, 186.
microchemical detection of (POZZI-ESCOT), A., ii, 483, 710; (SURRE), A., ii, 543.
estimation of, in kola nut and its fluid extracts (WARIN), A., ii, 483.
separation of, from urine (DOMBROWSKI), A., ii, 633.
Alkaloids. See also:—
Adenine.
Anhydrolupinine.
Arecaidine.
Arecoline.
Arginine.
Atropine.
Atroscine.
Alkaloids. See:—
Benzoyllupinine.
Berberine.
Brucidine.
Brucine.
Caffeine.
Canadine.
Cevadine (*veratrine*).
Choline.
Cinchonidine.
Cinchonifine.
Cinchonine.
*allo*Cinchonine.
*iso*Cinchonines.
Cinchotine.
Cinnamylquinine.
Cocaine.
l-Coniine.
*iso*Coniine.
*iso*Corybulbine.
Corycavamine.
Corycavine.
Corydaldine.
Corydaline.
Corydine.
Corytuberine.
Cotarnine.
Creatine.
Creatinine.
Cynoglossine-Riedel.
Cystine.
Dehydrocorydaline.
Dihydroberberine.
Dimethyl-lupuline.
3:8-Dimethylxanthine.
Diphylline.
Ecgonine.
Epiosine.
8-Ethylxanthine.
Eucaines.
Guanine.
Histidine.
Hydroxycinchotine.
Hyoscine.
Ibogaine.
Ibogine.
Ipohine,
Laudanine.
d-Lupanine.
Lupinine.
Lysatinine.
Lysine.
*allo*Meroquinenine.
1-Methyl-*l*-coniine.
n-Methylgranatanine.
Methyl-lupuline.
Methylmorphimethines.
8-Methylxanthine.
Morphigenine.
Morphine.
Nicotianine.
Nicotine.

Alkaloids. See:—
Oscine.
Oxycotarnine.
Oxymorphine.
Physostigmine.
Pilocarpine.
8-*iso*Propylxanthine.
Protopine.
Pyridinecholine.
Quinidine.
Quinine.
Salicylylquinidine.
i-Scopolamine.
Strychnidine.
Strychnine.
Stylopine.
Tanacetine-Riedel.
Tetrahydrobrucine.
Tetrahydrostrychnine.
1:3:8-Trimethylxanthine.
Tropine.
Veratrine.
Yohimbine.
Xanthine.
See also Ptomaines.

Alkyl bromides, velocity of combination of, with heterocyclic compounds (MENSCHUTKIN), A., ii, 493.

Alkylacetylacetones, action of, on diazonium and tetra-azonium chlorides (FAVREL), A., i, 508.

Alkylamines, microchemical detection of (BEHRENS), A., ii, 634.

Alkylcyanoacetamides, preparation of (GUARESCHI), A., i, 819.

Alkyl groups, influence of, on the activity of halogenised benzenes (KLAGES and STORP), A., i, 670.

Alkylhydrazines, preparation of (STOLLÉ), A., i, 57.

Alkylmalonic acid, esters, action of ammonia on (FISCHER and DILTHEY), A., i, 269.
action of ethyl chlorofumarate on (RUHEMANN), T., 1212; P., **1902**, 181.

Alkyloxy-acids, reactivity of (v. WALTHER), A., i, 528.

Alkyloxyl group, velocity of substitution of a halogen by an, in aromatic halogen nitro-compounds (LULOFFS), A., i, 87.

Alkyltricarballylic acids, synthesis of (BONE and SPRANKLING), T., 29; P., **1901**, 215.

Allantoin, excretion of (MENDEL), A., ii, 276.

Allophane (?) from Kansas (ROGERS), A., ii, 463.

Allophanic acid, sodium derivative of the sodium salt (EPHRAIM), A., i, 269.

Alloys, formation of, and cathodic polarisation (COEHN), A., ii, 2.

Alloys, potentials of, and the formation of superficial layers (HABER and SACK), A., ii, 441; (HABER), A., ii, 638.
binary, complete freezing point curves of (KAPP), A., ii, 145.
method for separating crystals from (VAN EIJK), A., ii, 496.
white metal, analysis of (IBBOTSON and BREARLEY), A., ii, 52.

Allyl alcohol, action of dry sulphur dioxide and ammonia on (GOLDBERG and ZIMMERMANN), A., i, 738.

Allylamine, bromo- (RUDZICK), A., i, 24.

β-Allylbenzene, bimolecular (KLAGES), A., i, 667.
and its bromides and glycol (TIFFENEAU), A., i, 433; (KLAGES), A., i, 667.
action of hypochlorous acid on (TIFFENEAU), A., i, 449.

Allylmesitylene, and its nitrosochloride (KLAGES), A., i, 612.

1-Allyltetrahydroquinoline and its hydrobromide (WEDEKIND), A., i, 234.

Aloes, Barbados, soluble hydroxyanthraquinone glucoside in (AWENG), A., i, 814.
detection of (LÉGER), A., ii, 484.

Aloin, detection of (BOURQUELOT), A., ii, 483.

Aloins, constitution of (LÉGER), A., i, 685.
and their haloid derivatives, action of sodium peroxide on (LÉGER), A., i, 549.

Aloin red (SCHAER), A., i, 168.

Altaite from Tuolumne Co., California (EAKLE and SCHALLER), A., ii., 213.

Aluminium, pasty condition of, near its melting point (GRANGER), A., ii, 608.
action of, on salt solutions and on molten salts (FORMENTI and LEVI), A., ii, 141.
mercury couple, use of, as a halogen carrier (COHEN and DAKIN), T., 1324; P., **1902**, 183.

Aluminium alloys (CAMPBELL and MATHEWS), A., ii, 399.
with copper (GUILLET), A., ii, 21.
with iron and with manganese (GUILLET), A., ii, 264.
with magnesium (BOUDOUARD), A., ii, 141.
with tin (GUILLET), A., ii, 84.
with zinc, thermal study of (LUGININ and SCHÜKAREFF), A., ii, 259.

Aluminium bromide, electrical conductivity and electrolysis of, in ethyl bromide (PLOTNIKOFF), A., ii, 639.

Aluminium bromide, compounds of, with bromine and carbon disulphide (PLOTNIKOFF), A., ii, 21.
chloride, action of, on amylene (ASCHAN), A., i, 749.
compounds of, with the alkali chlorides (BAUD), A., ii, 142.
anhydrons, compounds of, with hydrogen sulphide (BAUD), A., ii, 505.
oxide (*alumina*), crystallised, preparation of, in the electric furnace, and some bye-products (GINTL), A., ii, 141.
reduction of, by calcium carbide (TUCKER and MOODY), A., ii, 21.
action of ferric oxide on, at white heat (WARTH), A., ii, 209.
compounds of, with chromium sesquioxide (DUBOIN), A., ii, 400.
silicate, hydrated (GLINKA), A., ii, 511.
chlorosulphate (RECOURA), A., ii, 563.
Aluminium, estimation of, volumetrically, in alums (WHITE), A., ii, 476.
Alums, solubility of, as a function of two variables (LOCKE), A., ii, 21.
estimation of, volumetrically, of aluminium and of free and combined sulphuric acid in (WHITE), A., ii, 476.
Amalgams. See Mercury alloys.
Amenylbenzene, and its dibromide (KLAGES), A., ii, 669.
Amides, hydrolysis of, by ferments (GONNERMANN), A., i, 512.
conversion of, into amines (GRAEBE and ROSTOVZEFF), A., i, 663.
acid, formation of, from imino-ethers (WISLICENUS and KÖRBER), A., i, 211.
compounds of, with mercury, and with silver (LEY and SCHAEFER), A., i, 358.
acid and basic, reaction between, in liquid ammonia (FRANKLIN and STAFFORD), A., i, 748.
true, and the so-called *iso*amides (AUWERS), A., i, 14.
Amidine, cyclic, $C_{23}H_{25}N_3$, and its hydrochloride and platinichloride (SABANÉEFF, RAKOWSKY, and PROSIN), A., i, 604.
Amidogen, replacement of the diazo-group by (WACKER), A., i, 698.
Amine, $C_8H_{17}N$, from the reduction of β-methyl*cyclo*pentanemethylidenecarboxylonitrile (SPERANSKI), A., i, 342.
Amines, formation of, from amides (GRAEBE and ROSTOVZEFF), A., i, 663.
formation of, from hydrochlorides of imino-ethers (HENLE), A., i, 790.
Amines, formation of, from nitro-compounds (SABATIER and SENDERENS), A., i, 701.
formation of, from aromatic nitro-compounds (BOEHRINGER & SÖHNE), A., i, 715.
compounds of, with bismuth chloride (VANINO and HAUSER), A., i, 308.
compounds of, with thallic haloids (RENZ), A., i, 393.
Amines, aromatic, critical constants and molecular complexity of (GUYE and MALLET), A., ii, 243, 303.
condensation of, with aromatic aldehydes (DIMROTH and ZOEPPRITZ), A., i, 292.
action of diazonium salts on (MORGAN), T., 86, 1376; P., **1901**, 236; **1902**, 185.
interaction of, with aliphatic disulphonic chlorides (AUTENRIETH and RUDOLPH), A., i, 22.
action of, on phthalic chloride (KUHARA and FUKUI), A., i, 34.
acetylation of (PAWLEWSKI), A., i, 209.
compounds of, with *p*-chlorophenylacetic acid, amide, and nitrile (v. WALTHER and RAETZE), A., i, 466.
compounds of, with sodium tetraazoditolylsulphonate (SEYEWETZ and BIOT), A., i, 509.
primary, in which the para-position is occupied, condensation of, with tetramethyl*di*aminobenzhydrol (GUYOT and GRANDERYE), A., i, 398.
mono- and di-alkylated (BADISCHE ANILIN- & SODA-FABRIK), A., i, 91.
thiosulphates of (WAHL), A., i, 145.
benzenoid, relation between physical constants and constitution in (HODGKINSON and LIMPACH), A., i, 90.
fatty, crystallography of platinichlorides of (RIES), A., i, 747.
primary, dithiocarbamic esters from (DELÉPINE), A., i, 595.
test for (FENTON), P., **1902**, 244.
primary and secondary, aminobenzyl cyanides and iminobenzoyl cyanides from (SACHS and GOLDMANN), A., i, 780.
tertiary, $C_9H_{18}N$, from trimethylpiperidine (b. p. 166°) quaternary iodides (WALLACH and GILBERT), A., i, 80.
action of cyanogen bromide on (v. BRAUN and SCHWARZ), A., i, 365.

Amines, tertiary, action of, on esters of organic acids (WILLSTÄTTER and KAHN), A., i, 662.
Amines. See also :—
Acetylenetriphenyltriamine.
Acetyl-mono- and -di-glucosamine.
Acetyl-*m*-hydroxyphenyl-*p*-tolyl-amine.
Acetylmethylene-*p*-phenylenediamine.
Acetylphenylhydroxylamine.
Acylamines.
Alkylamines.
Allylamine.
Anhydro-acetyl- and -benzoyl-9-amino-10-hydroxyphenanthrenes.
Anhydroformaldehydeaniline.
Aniline.
9-Anilino-3:5-*di*aminophenazothionium chloride.
ε-Anilinoamylphthalimide.
Anilinocitraconanil.
Anilinodimethylpyrimidines.
2-Anilinohydrocarbostyril.
α-Anilinomethylsuccinanils.
Anilino-$\beta_1\beta_2$-naphthaphenazine.
Anilinonaphthaphenazothionium anhydride.
3-Anilinophenazothionium salts.
3-Anilinophenazoxonium salts.
Anilinophenylmethylenecamphoranil.
6-Anilino-3-phenyl-5-methylpyridazine.
3-Anilino-4-phenyl-5-triazolone.
Anisidines.
Anisole, *di*amino-.
Anthragallolamine.
Anthraquinone, amino-.
Arylamines.
Benzaldehydeanilines.
Benzaldehyde-β-naphthylamine.
Benzaldehydesemicarbazine-2:4-nitroamine.
Benzaldoxime, *di*amino-.
Benzamidine.
Benzidine.
Benzophenoneaniline.
Benzoyl-*o*-aminodiphenylamine.
Benzoyldiphenylbenzenylamidine.
Benzoyl-*o*-flavaniline.
Benzylalkylanilines.
Benzylamine.
Benzylaniline.
Benzyl cyanides, amino-.
Benzyldi-ethyl- and -propyl-amines.
Benzylethylaniline.
Benzylidene-*m*-aminoacetophenone, *m*-amino-.
Benzylideneaniline.
Benzylidenebenzidine.
Benzylidenedimethyl-*p*-phenylenediamine.
Amines. See :—
Benzylideneglucosamine.
Benzylidene-methyl- and -ethyl-amines.
Benzylidene-α-naphthylamine.
Benzylidene-*m*-nitroaniline.
Benzylidenetoluidines.
Benzyl-α-naphthylamine.
Benzyl-*p*-nitroaniline.
Benzyl-*o*-toluidine, 4-amino-.
Benzyl-*p*-toluidine.
Bisdinaphthaxanthoneamine.
Bis-2:4-*di*nitrobenzylidenebenzidine.
Butanolamines.
*iso*Butyryl-*o*-flavaniline.
Camphidine.
*iso*Camphoramine.
α-Carbaminethiobutyranilide.
α-Carbaminethiolactanilide.
Carbonyl-2:2′-*di*amino-4:4′-dimethyl-diphenyl.
Carbonyl-2:2′-*di*aminodiphenyl.
Chitosamine.
Cinnamylidene-methyl- and -ethyl-amines.
Cumylidene-methylamine and -ethyl-amine.
Cumyl-methylamine and -ethylamine.
*iso*Dehydrothio-*m*-xylidine.
Desylamine.
2:4′-Diacetoxybenzophenoneaniline.
Diamines.
3:4-Dianilino-β-naphthaphenazothionium anhydride.
Dianilinophenazothionium chloride.
3:9-Dianilinophenazoxonium chloride.
Di-*o*-anisylguanidine, amino-.
Dibenzoyl-*p*-aminodiphenylamine.
Dibenzoyl-*o*-toluidine.
Dibenzylallylamine.
Dibenzylamine.
Dibenzylhydrazine, *as*-*o*-*di*amino-.
Dicarbanilinocarbanilinodixylylmethylenediamine.
Dicarbanilinodiphenylmethylenediamine.
Di-ψ-cumylformamidine.
3:4-Diethyl*di*aminotoluene.
Diethylaniline.
3:3′-Diethyldiphenyl, 4:4′-diamino-.
Diethyl-β-naphthylamine.
Diethyl-*o*-toluidine, 4-amino-.
Dihydrocampholene, α-amino-.
Dihydroxybenzylideneaniline.
Di-*p*-hydroxydiphenyl-*m*-phenylenediamine.
Di-9-hydroxyphenanthryl-10-amine.
3:7-Dimethylacridine, 2:8-*di*amino-.
p-Dimethylaminoacetophenone, *o*-amino-.
p-Dimethylaminobenzylidene-*m*-aminoacetophenone.

Amines. See :—
p-Dimethylaminobenzylidene-*p*-nitroaniline.
Dimethyl-*p*-*di*aminodiphenylamine.
Dimethyl*di*aminohexene.
Dimethyl-*p*-amino-*m*-and-*p*-hydroxydiphenylamine.
2-Dimethylamino-12-methylpheno-1:2-naphthacridinium salts.
3′-Dimethylaminopheno-3-aminoxylazines.
2-Dimethylaminopheno-1:2-naphthacridine.
as-Dimethyl*di*aminophenotolazoxonium chlorides.
Dimethylaminotolaminonaphthazoxonium hydride.
as-Dimethyl*di*aminotolonaphthazoxonium chlorides.
3:4-Dimethyl*di*aminotoluene.
Dimethylaniline.
Dimethyldiethyl*di*aminophenotolazoxonium iodide.
4:4′-Dimethyldiphenyl, 2:2′-*di*amino-.
Dimethylhydroxyethylamine.
Dimethyl-β-naphthylamine.
1:3-Dimethyl-*m*-phenylenediamine.
2:4-Dimethylpyridine, 6-amino-.
Dimethylpyrimidines, amino-.
2:4-Dimethylpyrimidylethylenediamine.
Dimethyl-*o*-toluidine, 4-amino-.
Dimethyltoluidines.
α-Dinaphthylamine.
Di-β-naphthylformamidine.
Di-β-naphthylguanidine, amino-.
Diphenyl, 2:2′-*di*amino-.
Diphenylamine.
Diphenyl*tetra*-aminobenzene, *di*amino-.
Diphenylchlorophenylene-*p*-diamines.
Diphenylformamidine.
Diphenylguanidine, amino-.
Diphenylmethane, *di*amino-.
Diphenylmethylamine.
Diphenylmethylenediamine.
Diphenyl-4:6-*di*nitro-1:3-phenylenediamine, *di*amino-.
Diphenyloxyformamidine.
Diphenyl-*p*-tolylaminotriazole.
4:4-Dipyrimidylethylenediamine.
Dithymolylamine.
Di-*p*-tolyl*di*aminodihydroxydiphenylmethane.
Ditolylformamidine.
Di-*p*-tolylguanidine, amino-.
Ditolylmethylenediamines.
Ditolylmethylenedihydroxylamines.
Di-*p*-tolyloxyformamidine.
Dixylylformamidines.
Dixylylmethylenediamine.
Dixylylmethylenedihydroxylamines.

Amines. See :—
Dixylyloxyformamidines.
Ethanolmethylamine.
Ethenyl-3:4-tolylenediamine.
Ethylamine.
Ethylaniline.
Ethylenediamine.
Ethyl-β-naphthylamine.
m-Ethyltoluidine.
m-Ethyltolylenediamines.
Fluorene, amino-.
Fluorindine, $C_{36}H_{21}N_5Cl_4$.
Formamidines.
N-Formyl-β-phenylhydroxylamine.
Furfurylidene-methylamine and -ethylamine.
Furfuryl-methylamine and -ethylamine.
Glucosamine.
Glycocyamidine.
Hexahydrobenzylamine.
Hexahydro-*m*-tolylenediamine.
Hexahydro-*m*-xylylenediamine.
*iso*Hexane, βδ-*di*amino-.
Homocamphanylaniline.
Homocamphenylaniline.
Hydrindamine.
Hydrocinnamyl-methyl- and -ethylamines.
p-Hydroxybenzaldehydeaniline.
Hydroxy-ψ-cumylanilines.
5-Hydroxydimethyl-α-naphthylamine.
4-Hydroxydiethyl-*o*-toluidine.
4-Hydroxydimethyl-*o*-toluidine.
Hydroxydiphenylamine.
Hydroxylamine.
3-Hydroxymethyl-2-aminobenzylidene-*p*-nitroaniline.
9-(or 10-)Hydroxyphenanthrene, amino-.
5-*p*-Hydroxyphenyl-2-aminomethylpheno-αβ-naphthacridine.
p-Hydroxyphenylethylamine.
2-β-Hydroxy-β-phenylethylpyridine, *p*-amino-.
3-Hydroxy-2-phenyl-6-(or 7-)methylquinoxaline, amino-.
p-Hydroxyphenyl-α-naphthylamine.
p-Hydroxyphenylpyridazine, amino-.
Hydroxyphenylquinoxalines, amino-.
m-Hydroxyphenyl-*p*-tolylamine.
Leucauramines.
Lophine, amino-.
p-Methoxy-2-stilbazole, amino-.
Mesitylene, *tri*amino-.
Methylamine.
2-Methylaminobenzyl-*p*-nitroaniline.
o-Methylaminodiphenylamine.
Methylaniline.
Methyl-bromo- and -chloro-ethylamines.
Methyleneaniline.

Amines. See :—
Methylenebisaniline.
Methylenediamine.
3:2-Methyleneimino-benzyl- and -benzylidene-*p*-nitroanilines.
Methylheptenylamine.
p-Methylhexahydrobenzylaniline.
4-Methylpheno-β-naphthacridine, 3-amino-.
2-Methyl-5-*iso*propylhexahydrobenzylamine, -aniline, -dimethylamine, and -diethylamine.
4-Methylpyrimidine, amino-.
4-Methylstilbazole, *p*-amino-.
Methytoluidine.
1-Naphthol, 8-amino-.
Naphthylamines.
α-Naphthyldimethylamine.
Naphthylenediamines.
α-Naphthylmethylamine.
β-Nonylamine.
2:4:2′:4′-Octamethyl*tetra*-aminoditolyl-5:5′-methane.
3-Oxyaminophenylphenazonium anhydride.
Pentanolamines.
Phenanthrene, amino-.
Phenanthrylamines.
Phenazoxone, 3:5-*di*amino-.
Phenetidine.
Pheno-α-amino*cyclo*heptane.
Phenol, *o*-amino-.
Phenonaphthacridine, amino-.
Phenoxozone, *di*amino-
Phenyl*di*aminophenazine, amino-.
Phenyldicarbylamine.
Phenyldimethyl*di*aminophenotolazoxonium chloride.
Phenylenediamines.
Phenylenedicarbylamines.
m-Phenylene-1:3-dimethyl*di*nitroamine.
β-Phenylethylamine.
Phenyl*cyclo*hexane, *p*-amino-.
Phenylhydroxylamine.
Phenyl-2:4-lutidylalkine, *p*-amino-.
5-Phenyl-3-methyl-5:12-dihydrophenonaphthacridine, 2-amino-.
5-Phenyl-3-methylphenonaphthacridine, 2-amino-.
Phenylmethylnitroamine.
5-Phenyl-2-mono- and -di-alkylamino-3-methylphenonaphthacridines.
5-Phenyl-2-mono- and -di-alkylaminophenonaphthacridines.
Phenylnitroamine.
Phenyl-2 phenanthrylamine.
5-(or 3-)Phenylpyrazole, amino-.
1-Phenyl-3-*p*-tolyloxyformamidine.
Phthalylhydroxylamine.
Phthalyl-2:4-tolylenediamines.
Pipecoline, 1-amino-.

Amines. See :—
ε-Piperidinoamylamine.
Piperonylene-methyl- and -ethyl-amines.
Piperonyl-methyl- and -ethyl-amines.
Pyrazole, 4-amino-.
Pyridine, amino-.
Pyrimidine, amino-.
Pyrogallolaldehydeaniline.
Pyrrolidines, amino-.
Resorcinaldehydeaniline.
Salicylaldehydeaniline.
Stilbazole, amino-.
4:4′-Tetraethyl*di*aminodiphenylmethane.
4:4′-Tetramethyl*di*aminodiphenylmethane, 2-amino-.
2:8-Tetramethyl*di*amino-10-methylacridinium nitrate.
Tetramethyl*di*aminophenotolazoxonium chloride.
Tetramethyl*di*aminophenotoloxazine.
2:4-Tetramethyl*di*aminotoluene.
4:6-Tetramethyl*di*amino-*m*-xylene.
Tetramethyl-*m*-phenylenediamine.
2:2:5:5-Tetramethylpyrrolidine, 3-amino-.
Tetraphenylhydrazodicarbonamidine.
Thujamenthylamine.
Toluidines.
p-Tolyldicarbylamine.
Tolylenediamines.
6-Tolylhydroxylamine.
p-Tolyl-α-naphthylamine.
3-*p*-Tolylpyridazine, amino-.
Tribenzylamine.
1:2:3-Trihydroxybenzylideneaniline.
3:7-10-Trimethylacridinium salts, 2:8-*di*amino-.
5-(or 3-)Trimethylaminophenylpyrazole.
Trimethylenemethane, amino-.
Trimethylenetriethyltriamine.
2:2:4-Trimethylhexahydrobenzylaniline.
Triphenylmethylamine.
Triphenylmethylamylamine.
Triphenylmethylethylamine.
Triphenylmethylpropylamine.
β-Undecylamine.
Uracil, 4:5-*di*amino-.
Vinylamine.
m-Xylene, *di*amino-.
Xylenes, amino-.

Amino-acids from the hydrolysis of muscle (ÉTARD), A., i, 699.
from plants (SCHULZE and WINTERSTEIN), A., i, 595.
formation of (FISCHER, LEVENE, and ADERS), A., i, 512.

Amino-acids, discrimination between basic and acidic functions in solutions of, by means of formaldehyde (SCHIFF), A., i, 85.
action of, on phosphotungstic acid (SCHULZE and WINTERSTEIN), A., i, 137.
as food material for moulds (EMMERLING), A., ii, 521.
racemic. See under Racemic.
Amino-acids of the $C_nH_{2n+1}O_2N$ series, preparation of (KUTSCHER), A., i, 594.
Amino-alcohols (TORDOIR; STIÉNON), A., i, 265.
polyhydric, action of carbon disulphide on (MAQUENNE and ROUX), A., i, 694.
Amino-oxime-oxalic acid and its ethyl ester (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1575.
Amino-oximes, reactions of (SCHIFF), A., i, 429.
Aminosulphonic acids, aromatic, iodo-derivatives of (KALLE & Co.), A., i, 716.
Ammonia in mist, hoar frost, snow and rain (CASALI), A., ii, 423.
synthesis of, by electricity (DE HEMPTINNE), A., ii, 450.
preparation of, from atmospheric nitrogen (HOYERMANN), A., i, 355.
physical properties of aqueous solutions of (GOLDSCHMIDT), A., ii, 15.
latent heat of vaporisation of (DE FORCRAND), A., ii, 379.
gaseous, heat of solidification of (DE FORCRAND), A., ii, 379.
liquid, latent heat of solidification of (DE FORCRAND and MASSOL), A., ii, 379.
liquid and solid, heat of solution of (MASSOL), A., ii, 378.
solid, latent heat of fusion of (MASSOL), A., ii, 378.
influence of salts and other substances on the vapour pressure of aqueous solutions of (PERMAN), T., 480; P., **1901**, 261.
solubility of, in salt solutions, as measured by its partial pressure (ABEGG and RIESENFELD), A., ii, 309.
action of, on benzyl chloride (DHOMMÉE), A., i, 24.
action of, on iron, and estimation of impurities in solutions of (PENNOCK and MORTON), A., ii, 426.
action of, on lithium antimonide (LEBEAU), A., ii, 257.
in the blood and organs of the dog (HORODYŃSKI, SALASKIN, and ZALESKI), A., ii, 516.
Ammonia in the blood of geese (KOWALEWSKI and SALASKIN), A., ii, 619.
excretion of, in human urine (CAMERER), A., ii, 416.
estimation of, in waters (THOMAS and HALL; EMMERLING), A., ii, 535.
albuminoid and proteid, estimation of, in water (WINKLER), A., ii, 630.
Ammonio-cadmium thiocyanates (GROSSMANN), A., ii, 663.
Ammonio-chromium salts. See under Chromium.
Ammonio-cobalt salts. See under Cobalt.
Ammonio-copper compounds. See under Copper.
Ammonium, non-existence of, at −80° (MOISSAN), A., ii, 72.
as direct source of nitrogen for plants (KOSSOWITSCH), A., ii, 684.
Ammonium amalgam (MOISSAN), A., ii, 71.
Ammonium compounds, constitution of (WERNER), A., ii, 554.
Ammonium salts, thermochemical action of ammoniacal cupric oxide on (BOUZAT), A., ii, 550.
See also Agricultural Chemistry.
Ammonium mercuric bromide, chloride, and chlorobromide (RÂY), T., 648; P., **1902**, 85.
carbonate, action of, on arsenic sulphides (VANINO and GRIEBEL), A., ii, 48.
chloride and iodide, electrolysis of, in solution in liquefied ammonia (MOISSAN), A., ii, 71.
dissociation of, on heating: lecture experiment (VITALI), A., ii, 129.
action of, on minerals (CLARKE and STEIGER), A., ii, 269.
influence of, on the vapour pressure of aqueous ammonia solution (PERMAN), T., 485; P., **1901**, 261.
tin chloride (*pink salt*), technical estimation of tin in solutions of (GEISEL), A., ii, 534.
nickel chromate (BRIGGS), P., **1902**, 255
haloids, crystallography of (SLAVÍK), A., ii, 561.
nitrate, preparation of nitrogen from (MAI), A., ii, 69.
nitrite, velocity of decomposition of (ARNDT), A., ii, 64.
iridium nitrite (LEIDIÉ) A., ii, 567.
phosphate, double, in analysis (AUSTIN), A., ii, 697.
phosphates, action of, on barium chloride and on magnesium chloride (BERTHELOT), A., ii, 258.

Ammonium phosphates, with cadmium, cobalt, manganese and zinc, estimation of, volumetrically (DAKIN), A., ii, 628.
calcium phosphate (LASNE), A., ii, 320.
rubidium phosphate (V. BERG), A., ii, 136.
thallium sulphate (PICCINI and FORTINI), A., ii, 607.
uranous sulphate (KOHLSCHÜTTER), A., i, 12.
vanadous sulphate (PICCINI and MARINO), A., ii, 663.
vanadyl sulphates and sulphites (KOPPEL and BEHRENDT), A., ii, 85.
persulphate, action of silver salts on solutions of (MARSHALL and INGLIS), A., ii, 561.
sulphide, cause of the brown coloration of, in presence of a nickel salt (ANTONY and MAGRI), A., ii, 24.
amidosulphinate (GOLDBERG and ZIMMERMANN), A., i, 738.
amidosulphite, preparation and decomposition of (DIVERS and OGAWA), T., 504; P., **1902**, 71.
tungstates (TAYLOR), A., ii, 661.
vanadicophosphotungstate (SMITH and EXNER), A., ii, 506.
vanadate, precipitation of, by ammonuim chloride (GOOCH and GILBERT; ROSENHEIM), A., ii, 700.

Ammonium organic compounds:—

Ammonium bases, aromatic quaternary, formation of (SCHLIOM), A., i, 444.

ψ-Ammonium bases and their derivatives (HANTZSCH and HORN), A., i, 311.

Ammonium compounds (DECKER), A., i, 691; (DECKER, HOCK, and DJIWONSKY), A., i, 830.
quaternary, isomerism of (HANTZSCH and HORN), A., i, 277.
dissociation of (WEDEKIND and OBERHEIDE), A., i, 277; (WEDEKIND and OECHSLEN), A., i, 392.
iodides, organic, physiological action of (JACOBJ), A., ii, 620.
thiocyanate and thiocarbamide, "dynamic isomerism" of (REYNOLDS and WERNER), P., **1902**, 207.
action of benzoic chloride on (BENSON and HILLYER), A., i, 27.
action of picryl chloride on, in alcoholic solution (CROCKER), T., 436; P., **1902**, 57.
cadmium thiocyanate (GROSSMANN), A., i, 663.

Ammonium-calcium and **Ammonium-lithium**, decomposition of, by ammonium chloride, and action of hydrogen sulphide on (MOISSAN), A., ii, 72.

Amphibole in soda-syenite from Miask (JOHNSEN), A., ii, 31.

Amygdalin, catalytic racemisation of (WALKER), P., **1902**, 198.

Amyl alcohol, fermentation (BEMONT), A., i, 131.

Amyl alcohol (*diethylcarbinol*), **β**-amino-, and its dibenzoyl derivative and picronolate (TORDOIR), A., i, 265.

Amyl alcohol (*methylpropylcarbinol*), **γ**-amino- (STIÉNON), A., i, 265.

*iso***Amyl alcohol**, properties of mixtures of, with benzene, and with benzene and water (YOUNG and FORTEY), T., 749; P., **1902**, 105.
properties of mixtures of, with water (YOUNG and FORTEY), T., 733; P., **1902**, 105.

Amyl alcohols, separation of, from fusel oil (MARCKWALD), A., i, 418.

Amyl nitrite, influence of, on the amount of carbon dioxide in arterial blood (SAIKI and WAKAYAMA), A., ii, 161.
influence of, on the synthesis of phenolsulphuric acid in the organism (KATSUYAMA), A., ii, 161.

*iso***Amylacetone**, nitroso- (BOUVEAULT and LOCQUIN), A., i, 705.

*m-iso***Amylaminobenzoic acid** and its hydrochloride and nitroso-derivative (BAUER and EINHORN), A., i, 224.

*m-iso***Amylaminohexahydrobenzoic acid** and its ethyl ester, and nitroso-derivative (BAUER and EINHORN), A., i, 224.

*iso***Amylbenzene**, *p*-iodo-, *p*-iodoso-, and *p*-iodoxy-derivatives of, and their salts (WILLGERODT and DAMMANN), A., i, 19.

*sec.***Amylbenzene** (KLAGES), A., i, 668.

Amylene, action of aluminium chloride on (ASCHAN), A., i, 749.

Amylene (*β-methyl-β-butylene*) **βγ**-nitrosate, polymerism of (SCHMIDT), A., i, 582.
βγ-nitrosite, polymerism and desmotropism of (SCHMIDT), A., i, 581.
βγ-*iso***nitrosite**, and its benzoyl and phenylcarbamide derivatives (SCHMIDT), A., i, 582.

Amylene (*trimethylethylene*), **βγ**-nitrosite, desmotropism of (HANTZSCH), A., i, 734.

Amyl-ψ-nitrole, constitution of (PILOTY and STOCK), A., i, 735.

γ-Amylodextrin from the action of barley diastase on starch (BAKER), T., 1179; P., **1902**, 134.

*p-iso*Amylphenyl iodide containing polyvalent iodine, derivates of (Willgerodt and Dammann), A., i, 19.
Amylphthalimide, ε-bromo- (Manasse), A., i, 351.
3-Amylpyrazolone (Bongert), A., i, 74.
β-Amylsulphone*iso*butyl methyl ketone (Posner), A., i, 297.
β-Amylsulphone-β-methyl-β-phenylethyl and β-Amylsulphone-β-phenylethyl phenyl ketones (Posner), A., i, 297.
Anæropolarimetry. See Photochemistry.
Anæsthetics (Goldschmidt), A., i, 785.
Anæthole and its nitrosochloride (Klages), A., i, 609.
Analcite from Liassic clay at Lehre (Fromme), A., ii, 511.
Analysis, double ammonium phosphates in (Austin), A., ii, 697.
use of persulphates in (Dakin), A., ii, 533.
capillary (Goppelsroeder), A., ii, 424.
chemical, filter paper a source of error in (Mansier), A., ii, 690.
organic, new method of (Thibault and Vournasos), A., ii, 696.
qualitative, application of hydroxylamine and hydrazine salts in (Knoevenagel and Ebler), A., ii, 697.
quantitative, use of centrifugal apparatus for (Steinitzer), A., ii, 351.
fractional distillation as a method of (Young and Fortey), T., 752; P., **1902**, 106.
spectrum. See under Photochemistry.
volumetric, the literature on the preparation of standard solutions for (Vanino and Seitter), A., ii, 529.
titration with phenolphthalein in alcoholic solution (Hirsch), A., ii, 690.
relative stability of sodium oxalate and potassuim tetraoxalate (Dupré and v. Kupffer), A., ii, 424.
See also Indicators.
Analytical chemistry, relations of absorption to (Schaller), A., ii, 226.
Anapaite from the Scheljesni Bog mine on the Black Sea (Sachs), A., ii, 268.
Andalusite from the Rhætian Alps (Gramann), A., ii, 31.
Anethole, oxidation of (Bougault), A., i, 452.
oxidation of, with mercuric acetate (Balbiano, Paolini, and Nardacci), A., i, 808.
*di*bromide and bromo-, action of methyl and ethyl alcohols on (Pond, Erb, and Ford), A., i, 449.
Anhydramides, formation of (Armstrong and Lowry), T., 1441; P., **1901**, 182.
Anhydride, $C_8H_8O_5$, constitution of (Küster), A., i, 845.
Anhydrides of α-amino-fatty acids (Hoyer), A., i, 352.
acid, preparation of (Chemische Fabrik von Heyden), A., i, 93.
in chloroform solution, action of aluminium chloride on (Desfontaines), A., i, 258.
action of, on trioxymethylene (Descudé), A., i, 738.
Anhydrite, formation of (van't Hoff, Donnan, Armstrong, Hinrichsen, and Weigert), A., ii, 74; (van't Hoff and Weigert), A., ii, 137.
Anhydroacetyl-9-amino-10-hydroxyphenanthrene (Schmidt), A., i, 757.
Anhydrobenzoyl-9-hydroxy-10-aminophenanthrene (Pschorr and Schröter), A., i, 672.
Anhydrobisdiketohydrindene, derivatives and ethers of (Hoyer), A., i, 42.
Anhydrobispyrindanedione (Bittner), A., i, 494.
Anhydrobrazilic acid and its oxime (Perkin), T., 230; P., **1900**, 106; **1901**, 258.
Anhydroformaldehydeaniline. See Methyleneaniline.
Anhydrolupinine and its additive salts and methiodide (Willstätter and Fourneau), A., i, 558.
Anhydroprotokosin (Boehm and Lobeck), A., i, 167.
Anhydrotetramethylhæmatoxylone and its acetyl derivative (Perkin), T., 1062.
Anhydrotrimethylbrazilone and its acetyl derivative (Perkin), T., 1017; (Gilbody and Perkin), T., 1043.
Anilides, hydrolysis of, by ferments (Gonnermann), A., i, 512.
Aniline, action of phosphorus pentachloride on (Gilpin), A., i, 700.
Aniline, *s*-trihalogen, nitration of (Orton), T., 490, 806; P., **1902**, 58, 111.
4-chloro-2:6-*di*bromo-3-nitro- (Orton), T., 504; P., **1902**, 74.
s-chlorobromonitro-derivatives of, and their derivatives (Orton), T., 495; P., **1902**, 59.
o-chloro-*p*-nitro-, and its salts and acetyl, benzoyl, and azo-derivatives (Cohn), A., i, 441.
iodo-derivatives of (Willgerodt and Arnold), A., i, 16.
3:6-*di*iodo- and 4-iodo-*o*-nitro- (Brenans), A., i, 673.

Aniline, *p*-nitro-, action of formaldehyde on (MEYER and STILLICH), A., i, 319.
3:5-*di*nitro- (COHEN and DAKIN), T., 29; P., **1901**, 214.
9-Anilino-3:5-*di*aminophenazothionium chloride, and its 3:5-diacetyl derivative (KEHRMANN and SCHILD), A., i, 570.
ε-Anilinoamylphthalimide (MANASSE), A., i, 352.
Anilinoazoacetoacetic acid, ethyl ester, acetyl derivative of (BÜLOW and HAILER), A., i, 325.
Anilinoazobenzoylacetic acid, ethyl ester, acetyl derivative of, and amide (BÜLOW and HAILER), A., i, 326.
Anilinobenzeneazo-cyanide and **-phenylsulphone** (HANTZSCH), A., i, 324.
Anilinobenzeneazosulphonic acid, salts (HANTZSCH), A., i, 324.
Anilinocitraconanil and its derivatives (FICHTER and PREISWERK), A., i, 443.
β-Anilinocrotonic acid, menthyl ester (LAPWORTH and HANN), T., 1506; P., **1902**, 145.
β-Anilino-β-cyanobutyric acid, ethyl ester, and its products of transformation (SCHROETER and KIRNBERGER), A., i, 530.
3-Anilino-1:2-diketopentamethylene-2-anil hydrochloride (DIECKMANN), A., i, 787.
6-Anilino-2:4-dimethylpyrimidine (SCHMIDT), A., i, 499.
2-Anilino-4:6-dimethylpyrimidine and its salts and nitroso-derivative (ANGERSTEIN), A., i, 124.
Anilinoethylenetricarboxylic acid, methyl ester (CONRAD and REINBACH), A., i, 211.
2-Anilinohydrocarbostyril, and its **-2-carboxylic acid**, methyl ester (CONRAD and REINBACH), A., i, 211.
Anilinomalonic acid, esters, and their salts, amides, *p*-bromo- and alkyl derivatives (CONRAD and REINBACH), A., i, 210.
Anilinomethylenemalonic acid, *p*-chloro-, ethyl ester, *p*-chloroanilide of (DAINS), A., i, 603.
α-Anilinomethylsuccinanils, isomeric (FICHTER and PREISWERK), A., i, 443.
Anilino-$\beta_1\beta_2$-naphthaphenazine (HINSBERG), A., i, 239.
11-Anilino-β- and **3-Anilino-α-naphthaphenazothionium** anhydrides (KEHRMANN, GRESSLY, and MISSLIN), A., i, 568.
8-Anilino-1-nitroanthraquinone (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 382.
2-Anilino-3:5-*di*nitrobenzoic acid, and its aniline compound and potassium salt (PURGOTTI and CONTARDI), A., i, 778.
3-Anilinophenazothionium salts and *p*-acetyl derivative (AKTIENGESELLSCHAFT FÜR ANILIN-FABRIKATION), A., i, 495.
chloride and its anhydro-base (KEHRMANN and VESELÝ), A., i, 568.
3-Anilinophenazoxonium, chloride and nitrate (KEHRMANN and STAMPA), A., i, 566.
Anilinophenylmethylenecamphoranil and its acetyl derivative (FORSTER), P., **1902**, 237.
6-Anilino-3-phenyl-5-methylpyridazine, and its chromate (OPPENHEIM), A., i, 187.
3-Anilino-4-phenyl-5-triazolone (BUSCH and ULMER), A., i, 574.
Anilino-phosphoryl chloride and **-phosphamic acid** (CAVEN), T., 1366; P., **1901**, 27.
α-Anilinopyrotartaric acid nitrile, ethyl ester. See β-Anilino-β-cyanobutyric acid, ethyl ester.
Anilino-*p*-toluidino-phosphoryl chloride and **-phosphoric acid**, and its ethyl ester (CAVEN), T., 1369; P., **1901**, 26.
β-Anilinotricarballylic acid nitrile, diethyl ester, and its products of transformation (SCHROETER and KIRNBERGER), A., i, 531.
Animal fibres, dyeing of, by acid colouring matters (SISLEY), A., i, 815
tissues, electrical conductivity of (GALEOTTI), A., ii, 675.
Animals, muscle-plasma in different classes of (PRZIBRAM), A., ii, 339.
tyrosinase in (v. FÜRTH and SCHNEIDER), A., ii, 36.
aquatic, molecular concentration of the blood and tissues of (FREDERICQ), A., ii, 94.
lower, gluco-proteids of (v. FÜRTH), A., ii, 35.
lipase in the (SELLIER), A., ii, 217.
marine, coagulation of blood in (BOTTAZZI), A., ii, 410.
warm-blooded, influence of temperature on (FALLOISE), A., ii, 149.
Anisaldehyde (*o-methoxybenzaldehyde*), condensation of, with benzyl methyl ketone (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.
condensation of, with ethyl cyanoacetate (GUARESCHI), A., i, 820.
action of, on 2-methyl-5-ethylpyridine, 2-picoline, and quinaldine (BIALON), A., i, 828.

4-Anisidine, 2:6-*di*bromo-, and its acetyl and benzoyl derivatives (ROBERTSON), T., 1479; P., **1902**, 190.
2:3-*di*nitro-, preparation, and diazotisation of (MELDOLA and EYRE), T., 988; P., **1902**, 160.
p-**Anisidinomethylenemalonic acid**, *p*-anisidide of (DAINS), A., i, 603.
5-Anisidino-2-*iso*propylbenzoquinone, **3:6-*di*bromo-** (BÖTERS), A., i, 473.
Anisole, critical constant and molecular complexity of (GUYE and MALLET), A., ii, 243, 303.
Anisole, *di*amino-, *mono*- and *di*chloronitro-, and *di*nitro- (MELDOLA and EYRE), T., 992; P., **1902**, 160.
o- and *p*-nitroso- (v. BAEYER and KNORR), A., i, 766.
Anisole*anti*diazo-hydrate and **-nitrosoamine**, 2:6-*di*bromo- (HANTZSCH and POHL), A., i, 843.
Anisolediazo-iodide (EULER and HANTZSCH), A., i, 191.
Anisolepropionic acid (POPPENBERG), A., i, 60.
Anisylarsenic compounds (MICHAELIS and ULRICH), A., i, 413.
Anisylideneacetone (v. BAEYER and VILLIGER), A., i, 380.
α-Anisylidene-Δ$^{\beta}$-angelicalactone (THIELE, TISCHBEIN, and LOSSOW), A., i, 155.
Anisylidenecamphor, crystallographic properties of (MINGUIN), A., i, 632.
α-Anisylidenelævulic acid (THIELE, TISCHBEIN, and LOSSOW), A., i, 156.
Anisylidenemalic acid (THIELE, TISCHBEIN, and LOSSOW), A., i, 156.
Anisylidenequinaldine and its salts (BIALON), A., i, 828.
o-**Anisylmethylsulphone** (TRÖGER and BUDDE), A., i, 776.
3-Anisylpyridazine, bromo-, and its 6-chloro-, 6-iodo-, 6-methoxy, and 6-ethoxy derivatives (POPPENBERG), A., i, 61.
3-Anisylpyridazinone and its 1-phenyl derivative (POPPENBERG), A., i, 60.
3-Anisylpyridazone, bromo-, and its 1-methyl and 1-ethyl derivatives (POPPENBERG), A., i, 60.
4-*p*-Anisylsemithiocarbazide (BUSCH and ULMER), A., i, 575.
o-**Anisylsulphoneacetic acid** and its ethyl ester (TRÖGER and BUDDE), A., i, 776.
o-**Anisylsulphone-ethyl alcohol** (TRÖGER and BUDDE), A., i, 776.
Ankerite from Montana (WEED), A., ii, 330.
from Saint Pierre, Allevard (ARSANDAUX), A., ii, 329.
Annelids, artificial parthenogenesis in (FISCHER), A., ii, 621.
Annual General Meeting, T., 609; P., **1902**, 77.
Anodes. See Electrochemistry.
Anorthite from Phippsburg, Maine (HILLEBRAND), A., ii, 463.
from S. Martino, Viterbo (ZAMBONINI), A., ii, 213.
Anthracene, solubility of, in benzene (FINDLAY), T., 1220; P., **1902**, 172.
detection of the principal impurities of (BEHRENS), A., ii, 631.
Anthrachrysone, preparation of (HOHENEMSER), A., i, 629.
Anthragallol, nitro-compounds and dimethyl ether of (BAMBERGER and BÖCK), A., i, 30.
Anthragallolamine (BAMBERGER and BÖCK), A., i, 30.
Anthragallolsulphonic acid, and its sodium salt (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 383.
Anthranil from *o*-aziminobenzaldehyde (BAMBERGER and DEMUTH), A., i, 127.
reactions of (BUHLMANN and EINHORN), A., i, 94; (BAMBERGER and DEMUTH), A., i, 95.
Anthranilic acid (*o-aminobenzoic acid*), preparation of (KALLE & CO.; BASLER CHEMISCHE FABRIK), A., i, 718.
action of formaldehyde on (GOLDSCHMIDT), A., i, 371; (HELLER and FIESSELMANN), A., i, 779.
Anthranilic acid, esters, action of formaldehyde on (GOLDSCHMIDT), A., i, 716.
methyl ester, action of formaldehyde on (MEHNER), A., i, 676.
detection and estimation of (ERDMANN), A., ii, 292.
estimation of, in ethereal oils (HESSE and ZIETSCHEL), A., ii, 538.
Anthranilic acid, 4- and 6-chloro-, action of aromatic phenols and amines on the diazo-compounds of (COHN), A., i, 63.
4-, 5-, and 6-nitro-, and their esters, acetyl derivatives, sodium salts and hydrochlorides (SEIDEL), A., i, 159; (SEIDEL and BITTNER), A., i, 719.
Anthranilic-acetonitrilic acid, esters (VORLÄNDER, MUMME, and WANGERIN), A., i, 454.
Anthranilidoacetonitrile. See Methylanthranilic acid, ω-cyano-.
Anthranol, 9-nitroso- (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 448.

Anthraquinone, amino-derivatives and their acetyl compounds (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 476.
*di*amino-derivatives, condensation of, with formaldehyde (BADISCHE ANILIN- & SODA-FABRIK), A., i, 119.
*poly*chloro*di*amino- (BADISCHE ANILIN- & SODA-FABRIK), A., i, 382.
nitro-derivatives, conversion of, into bromoamino-derivatives (BADISCHE ANILIN- & SODA-FABRIK), A., i, 475.
conversion of, into the corresponding hydroxy-compounds (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 383.
1:4-nitroamino-, and its acetyl derivative (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 382.
*di*nitro*di*amino-derivatives and their acetyl compounds (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 476.
Anthraquinonedisulphonic acid, *di*bromo-1:5-*di*amino-, and *di*chloro-1:5-*di*amino-, sodium salts (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 476.
Anthraquinoneoxime, and its dialkylacetals (MEISENHEIMER), A., i, 795.
Anthraquinonesulphonic acid, *di*bromo-β-amino- (BADISCHE ANILIN- & SODA-FABRIK), A., i, 476.
Anthraquinone-2-sulphonic acid, 1-nitroso- (WACKER), A., i, 298.
Anthrarufin, reduction of, with hydrogen iodide (PLEUS), A., i, 773.
ethyl ethers, and the acetate of the mono-ether (PLEUS), A., i, 774.
Anthrarufin, *p-di*bromo- and *p-di*chloro- (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 477.
Anthronedimethylacetal, bromonitro- (MEISENHEIMER), A., i, 796.
Anti-hæmolysins, natural (BESREDKA), A., ii, 94.
Antimony, electrolytic preparation of (v. HEMMELMAYR), A., ii, 459.
action of, on organic acids (MORITZ and SCHNEIDER), A., i, 703.
action of lithium and of lithium-ammonium on (LEBEAU), A., ii, 256.
Antimony alloys with copper, iron, lead, and tin, analysis of (PONTIO), A., ii, 478.
with tellurium (FAY and ASHLEY), A., ii, 266.
Antimony *tri*bromide, compound of, with pyridine (HAYES), A., i, 492.
Antimony *tri-* and *penta*-bromides and *penta*-chloride, compounds of, with dimethylaniline, pyridine, and with quinoline (ROSENHEIM and STELLMANN), A., i, 68.
*penta*chloride, compounds of, with organic acids (ROSENHEIM and STELLMANN), A., i, 68; (ROSENHEIM and LOEWENSTAMM), A., i, 358.
compounds of, with organic oxygen derivatives (ROSENHEIM and STELLMANN), A., i, 68.
hydride (*stibine*), preparation of (OLSZEWSKI), A., ii, 27; (STOCK and DOHT), A., ii, 507.
oxides, action of organic acids on (JORDIS), A., i, 740.
Antimonious oxide, influence of, on the rotation of lactic acid and its potassium salt (HENDERSON and PRENTICE), T., 660; P., **1902**, 88.
Antimony, detection, estimation, and separation of:—
detection and estimation of traces of, in presence of large quantities of arsenic (DENIGÈS), A., ii, 52; (BARTHE), A., ii, 290.
in hydrochloric acid solution, estimation of, volumetrically with permanganate (PETRICCIOLI and REUTER), A., ii, 177.
arsenic, and tin, separation of (WALKER), P., **1902**, 246; (LANG, CARSON, and MACKINTOSH), A., ii, 530; (LANG and CARSON), A., ii, 700.
separation of, from copper, lead, and tin (RÖSSING), A., ii, 230.
Antipeptones, α- and β- (SIEGFRIED), A., i, 654.
Antipyrine, constitution of (MICHAELIS), A., i, 315.
compound of, with ferric chloride (SCHUYTEN), A., i, 188.
salts (REYCHLER), A., i, 646.
ferrocyanide, ferricyanide, and nitroprusside (SCHUYTEN), A., i, 187.
Antipyrine, thio- and seleno-, and their derivatives (MICHAELIS), A., i, 315.
thio-. See also 1-Phenyl-2:3-dimethylpyrazolone, 5-thio-.
Antipyrylcarbamide in urine after the administration of pyramidone (JAFFÉ), A., i, 840.
Antirennet and rennet (KORSCHUN), A., ii, 673.
Antiseptic function of the hydrogen ions of dilute acids (BIAL), A., ii, 447.
solutions containing mercuric chloride, iodide, or cyanide, estimation of mercury in (MEILLÈRE), A., ii, 49.

Antitoxic action of ions, influence of valency on the (LOEB), A., ii, 162, 219.
effect of ions (NEILSON), A., ii, 621.
Antitoxin, non-absorption of, by the stomach and rectum (HEWLETT), A., ii, 465.
Antitoxins, nature and properties of mixtures of, with their toxins (DANYSZ), A., ii, 575.
and toxins, action of, *in vitro* and *in corpore* (BASHFORD), A., ii, 277.
Antiurease (MOLL), A., ii, 621.
Apatite from Minot, Maine (WOLFF and PALACHE), A., ii, 330.
Aphthitalite from Wilhelmshall, Magdeburg-Halberstadt (KUBIERSCHKY), A., ii, 406.
Apigenin, colouring properties of (PERKIN), T., 1175; P., **1902**, 180.
*iso***Apiole,** oxidation of (BOUGAULT), A., i, 453.
*di*bromide, bromo-, action of methyl and ethyl alcohols on (POND, ERB, and FORD), A., i, 450.
Apionic acid and its salts and phenylhydrazide (VONGERICHTEN), A., i, 425.
Apiose, constitution of (VONGERICHTEN), A., i, 425.
Apophyllenic acid, formation of, from α-methyl cinchomeronate (KIRPAL; KAASS), A., i, 564.
Apophyllite from Schiket (Colonia Eritrea) (D'ACHIARDI), A., ii, 408.
Apparatus, new (PATTERSON), A., ii, 389; (LANDSIEDL), A., ii, 390; (WILLIAMS), A., ii, 391.
Apples and their products, analysis of (BROWNE), A., ii, 371.
See also Agricultural Chemistry.
Apricots, colouring matter and sugars of (DESMOULIÈRE), A., ii, 685.
Aquamarine from the Ilmen Mountains (SUSCHTSCHINSKY), A., ii, 30.
Araban and xylan, simultaneous occurrence of, in plants (BROWNE and TOLLENS), A., ii, 420.
behaviour of, with Fehling's solution (SALKOWSKI), A., i, 593.
d-**Arabinoketosephenylmethylosazone** (NEUBERG), A., i, 264.
Arabinose, derivatives of (CHAVANNE), A., i, 346.
phenylhydrazone (TANRET), A., i, 426.
estimation of, in urine (NEUBERG and WOHLGEMUTH), A., i, 347.
d-**Arabinose,** preparation of (NEUBERG and WOHLGEMUTH), A., i, 346.
Arabinoses, *d*-, *l*- and *r*-, fate of, in the organism (NEUBERG and WOHLGEMUTH), A., ii, 336.
Arabitol *penta*nitrate (VIGNON and GERIN), A., i, 9.
d-**Arabonic acid,** preparation of (NEUBERG and WOHLGEMUTH), A., i, 346.
Arachis oil, estimation of (TORTELLI and RUGGERI), A., ii, 539.
occurrence and detection of sesamé oil in commercial (SOLTSIEN), A., ii, 114.
Arachnolysin (SACHS), A., ii, 343.
Arcus senilis (PARSONS), A., ii, 418.
Arecaidine and Arecoline, constitution of (MEYER), A., i, 390.
Arenicola larvæ, effect of various solutions on ciliary and muscular movements in (LILLIE), A., ii, 340.
Argemone mexicana, alkaloids of (SCHLOTTERBECK), A., ii, 101.
Arginine (SCHULZE and WINTERSTEIN), A., i, 231.
amount of, in vegetable proteids (SCHULZE and WINTERSTEIN), A., i, 193.
Argon, atomic weight and classification of (WILDE), A., ii, 393.
is it an elementary substance? (MARTIN), P., **1901**, 259.
liquid, variation with temperature of the surface energy and density of (BALY and DONNAN), T., 907; P., **1902**, 115.
Aromadendral and its oxime and **Aromadendric acid** from eucalyptus oils (SMITH), A., i, 103.
Aromadendrene (SMITH), A., i, 229.
Aromatic compounds, constitution of (THIELE), A., i, 151.
bromination and nitration of (BLANKSMA), A., i, 600.
Arrhenal. See Methylarsenic acid, disodium salt.
Arrow poisons (HARTWICH and GEIGER), A., i, 114.
from German East Africa (BRIEGER and DIESSELHORST), A., i, 634.
Ipoh, and some plants used to prepare them (HARTWICH and GEIGER), A., i, 114.
Arrowroot, production of (LEUSCHER), A., ii, 283.
Arsenic, atomic weight of (EBAUGH), A., ii, 499.
in the organism (CERNÝ), A., ii, 274.
presence of, in normal animal organs (GAUTIER; BERTRAND), A., ii, 517.
compounds of, in the liver (SLOWTZOFF), A., ii, 34; (v. ZEYNEK), A., ii, 161.
origin of, in beers (PETERMANN), A., ii, 471.
Arsenic *tri*bromide as a solvent (WALDEN), A., ii, 247.
*tri*hydride (VANINO), A., ii, 655.

Arsenic:—
Arsenides of the alkaline earth metals (LEBEAU), A., ii, 395.
Arsenic oxide and its hydrates (AUGER), A., ii, 393.
Arsenious oxide, influence of, on the rotation of lactic acid and its potassium salt (HENDERSON and PRENTICE), T., 660; P., **1902**, 88.
Arsenic acid, action of boiling hydrochloric acid on (HEHNER), A., ii, 695.
action of hydrogen sulphide on (LE ROY and MCCAY), A., ii, 135, 655.
action of, on pinene (GENVRESSE), A., i, 300.
compounds of, with aromatic ketones (KLAGES), A., i, 624.
Thio-oxyarsenic acids (LE ROY and MCCAY), A., ii, 135, 655.
Arsenious selenide, action of hydrogen on (PÉLABON), A., ii, 253.
Arsenic sulphides, action of ammonium carbonate on (VANINO and GRIEBEL), A., ii, 48.
separation of, from antimony and tin sulphides (VANINO and GRIEBEL), A., ii, 48.
Arsenic aromatic compounds (MICHAELIS), A., i, 411, 515.
Arsenic, detection, estimation and separation of:—
two possible causes of discrepancy in the analysis of (MURPHY), A., ii, 629.
the Marsh-Berzelius deposit of (ACKROYD), A., ii, 628.
detection of (ARNOLD and MENTZEL), A., ii, 354.
detection of very small quantities of (BERTRAND; MÖRNER), A., ii, 694.
detection of, by Gosio's biological method, in presence of selenium and tellurium (MAASSEN), A., ii, 629.
influence of selenium and tellurium on the biological test for (ROSENHEIM), P., **1902**, 138.
Reinsch's test for (KENRICK), A., ii, 427.
Selmi's method for the toxicological detection of (GIUDICE), A., ii, 354.
detection and estimation of minute quantities of, in beer, brewing materials, foods, and fuel (REPORT OF JOINT COMMITTEE), A., ii, 288.
detection of traces of, in food (BERNTROP), A., ii, 225.
detection of, in glycerol (BOUGAULT), A., ii, 530; (BARTHE), A., ii, 703.
detection of, in hydrochloric and sulphuric acids (SEYBEL and WIKANDER), A., ii, 289; (ARNOLD and MENTZEL), A., ii, 354.
estimation of, in malt liquors (RICHARDSON), A., ii, 628.
Arsenic, estimation and separation of:—
estimation of, colorimetrically (MAI), A., ii, 628.
estimation of, in presence of organic matter (MEILLÈRE), A., ii, 288.
estimation of, and separation of, from antimony (DENIGÈS), A., ii, 52; (BARTHE), A., ii, 290.
tin, and antimony, separation of (WALKER), P., **1902**, 246; (LANG, CARSON, and MACKINTOSH), A., ii, 530; (LANG and CARSON), A., ii, 700.
Arsenical poisoning, chronic, condition of the blood and marrow in (MUIR), A., ii, 37.
Arsenic mould (*Penicillium brevicaule*), use of, for the detection of arsenic in presence of selenium and tellurium (MAASSEN), A., ii, 629.
Arsensulfurite (RINNE), A., ii, 611.
Arsine. See Arsenic *tri*hydride.
Artemic acid (HORST), A., i, 387.
Artemisin and its silver salt and methyl ester (FREUND and MAI), A., i, 101.
reduction of (BERTOLO), A., i, 814.
Arylamines, action of methylene diiodide on (SENIER and GOODWIN), T., 280; P., **1902**, 12.
α-Arylaminoanthraquinones, action of dehydrating agents on (DAMMANN and GATTERMANN), A., i, 795.
conversion of, into acridine derivatives (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 501.
Arylaminonitroanthraquinones (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 382.
Arylazoacetaldoximes, action of hydrogen chloride on (BAMBERGER and GROB), A., i, 247; (BAMBERGER and FREI), A., i, 248.
Arylazoaldoximes (BAMBERGER), A., i, 246; (BAMBERGER and GROB), A., i, 247; (BAMBERGER and FREI), A., i, 248.
Arylhydroxylamines, conversion of, into diarylcarbamides (BAMBERGER and DESTRAZ), A., i, 538.
Arylsulphonimides (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 364.
Aryl*di*thiocarbamates, removal of sulphur from (HELLER and BAUER), A., i, 444.
Asarone and **Parasarone** (THOMS and BECKSTROEM), A., i, 809.
Asarum arifolium, essential oil of (MILLER), A., i, 809.

Asarum canadense, constituents of the oil of (POWER and LEES), T., 59; P., **1901**, 210.
Asbestos, composition of (CLAYTON), P., **1901**, 203.
Ascaris, formation of glycogen in (WEINLAND and RITTER), A., ii, 677.
Ascaris lumbricoides, action of extracts of (WEINLAND), A., ii, 412.
changes in the carbohydrates in (WEINLAND), A., ii, 155.
Ascites, chylous and chyliform (HUTCHISON), A., ii, 466.
Ascitic fluid, urobilin in (STICH), A., ii, 418.
Asparagine, formation of, in the metabolism of shoots (SUZUKI), A., ii, 684.
Asparagus seeds, composition of and of its oil (PETERS), A., ii, 281.
Aspergillus niger, influence of thiocyanic acid on the growth of (FERNBACH), A., ii, 577.
Aspidinol and its bromo- and dibenzoyl derivatives (BOEHM), A., i, 37.
Aspidium Filix-mas., constituents of extracts of (KRAFT), A., i, 814.
Association. See Affinity.
Astracanite. See Blödite.
Atmid-keratin and **-keratose** (BAUER), A., i, 846.
Atmospheric air, ionisation of (BARUS), A., ii, 59.
liquid (D'ARSONVAL), A., ii, 650.
hydrogen in (RAYLEIGH), A., ii, 391.
organic vapour in (HENRIET), A., i, 714.
influence of carbon dioxide in, on the form and internal structure of plants (FARMER and CHANDLER), A., ii, 683.
influence of varying amounts of carbon dioxide in, on the photosynthetic process of leaves and on the mode of growth of plants (BROWN and ESCOMBE), A., ii, 682.
of factories and workshops (HALDANE), A., ii, 671.
of the sea and of maritime pine forests (DUPHIL), A., ii, 204.
estimation of carbon dioxide in (LETTS and BLAKE), A., ii, 226.
Atomic groupings, tautomeric (LAAR), A., i, 1.
hypothesis, new (RICHARDS), A., ii, 444.
volume. See Volume.
Atomic weight of argon, krypton, neon and xenon (WILDE), A., ii, 393.
of arsenic (EBAUGH), A., ii, 499.
of calcium (HINRICHSEN), A., ii, 137, 501; (RICHARDS), A., ii, 394.
Atomic weight of the rare earths, error of the "sulphate method" for the determination of (BRAUNER and PAVLÍČEK), T., 1248; P., **1901**, 63.
of iodine (LADENBURG), A., ii, 498.
of lanthanum (BRAUNER and PAVLÍČEK), T., 1243; P., **1901**, 63; (JONES), A., ii, 563.
of radium (CURIE), A., ii, 562.
of selenium (MEYER), A., ii, 392, 605.
of tellurium (SCOTT), P., **1902**, 112; (KÖTHNER), A., ii, 67; (PELLINI), A., ii, 69; (GUTBIER), A., ii, 254.
of thorium (BASKERVILLE), A., ii, 85.
of uranium (RICHARDS and MERIGOLD), A., ii, 506.
of vanadium (MATIGNON and MONNET), A., ii, 326.
of ytterbium (CLEVE), A., ii, 659.
Atomic weight numbers (BILECKI), A., ii, 449.
Atomic weights, tendency of, to approach whole numbers, and Prout's hypothesis (RUDOLPHI), A., ii, 201.
the standard for (RICHARDS), A., ii, 65.
ratios of the (MARSHALL), A., ii, 602.
general numerical connection between (VINCENT), A., ii, 602.
calculation of (CLARKE), A., ii, 449; (SCHMIDT), A., ii, 497.
Report of the American Committee on (CLARKE), A., ii, 389.
third Report of the Committee of the German Chemical Society on (LANDOLT, OSTWALD, and SEUBERT), A., ii, 129.
Atoms, physical properties of (SUTHERLAND), A., ii, 300.
weights of (KELVIN), A., ii, 649.
Atropine, synthesis of (LADENBURG), A., i, 390.
action of, on echinoderm embryos (MATHEWS), A., ii, 96.
Atroscine and its salts (HESSE), A., i, 51; (GADAMER), A., i, 173.
and its hydrates (HESSE), A., i, 817.
change of, into *i*-scopolamine (KUNZ-KRAUSE), A., i, 174.
Aucuba japonica, reserve carbohydrates of the seed of (CHAMPENOIS), A., ii, 166.
Aucubin from the seeds of *Aucuba japonica* (BOURQUELOT and HÉRISSEY), A., i, 634.
Auramine, constitution of (GRAEBE), A., i, 683.
Auramine G, base of, and its salts (GNEHM and WRIGHT), A., i, 295.
Aurora borealis, nature and constitution of the spectra of the (STASSANO), A., ii, 437.
Autolysis and blood-clotting (CONRADI), A., ii, 35.

Autolysis, formation of bactericidal substances in (CONRADI), A., ii, 35.
of the liver, behaviour of fat during (SIEGERT), A., ii, 34.
acid formation in (MAGNUS-LEVY), A., ii, 517.
in malignant tumours (PETRY), A., ii, 342.
Auto-oxidation. See under Oxidation.
***o*-Aziminobenzaldehyde**, conversion of, into anthranil (BAMBERGER and DEMUTH), A., i, 127.
Azlactones (ERLENMEYER), A., i, 595.
Azoacetamide, imino-, and its salts (SILBERRAD), T., 600; P., **1902**, 44.
Azoacetic acid, imino-, barium salt (SILBERRAD), T., 603; P., **1902**, 44.
Azobenzene, certain properties of (FREUNDLER and BÉRANGER), A., i, 405.
p-amino-, acyl derivatives of (WIELEZYŃSKI), A., i, 510.
Azobenzoic acids, new method of preparing (MAIER), A., i, 192.
Azobenzophenones, *m*- and *p*- (POSNER), A., i, 624.
Azo-compounds, amino-, from diazoamino-compounds (CHATTAWAY), P., **1902**, 175.
influence of substitution on the formation of (MORGAN), T., 86, 1376; P., **1901**, 236; **1902**, 185.
aminobenzyl cyanides and iminobenzoyl cyanides from (SACHS and GOLDMANN), A., i, 781.
fatty aromatic (PRAGER), A., i, 64, 578.
Azo-compounds. See preceding entries and also:—
Acetoacetamide, phenylazo-derivative of.
o-Acetoxyazoxybenzene.
p-Acetylchloroaminoazobenzene.
Anilinoazoacetoacetic acid.
Anilinoazobenzoylacetic acid.
Anilinobenzeneazocyanide.
Anilinobenzeneazophenylsulphone.
Anilinobenzeneazosulphonic acid.
Anisole-*anti*diazo-compounds.
Anisolediazo-iodide.
Arylazoacetaldoximes.
Arylazoaldoximes.
o-Aziminobenzaldehyde.
s-*p*-Azodibenzaldehyde.
4:4′-Azophthalic acid.
5:5′-Azophthalide.
4-*p*-Azotoluenepyrazolone-3-acetic acid.
Azoxyanisole.
Azoxybenzaldehydes.
Azoxybenzaldoxime.
Azoxybenzene.
Azo compounds. See:—
Azoxybenzylidene-aniline and -toluidines.
Azoxynaphthalene.
1:1′-Azoxynaphthalene-di- and -tetrasulphonic acids.
Azoxyphenyl ethers.
p-Azoxy-*o*-toluidine.
Benzene-5-azo*di*amino-*m*-xylene.
Benzeneazoaspidinol.
Benzeneazobenzaldehyde.
Benzeneazobenzylideneaniline.
Benzeneazobromo-α-naphthol.
Benzeneazo*di*chloro-*m*-phenylenediamines.
Benzeneazochlorotolylenediamines.
Benzeneazodihydroxynaphthalene.
Benzeneazofilicyl-*n*-butanone.
Benzeneazo-*o*-hydroxyazoxybenzene.
Benzeneazomethylphloroglucinol-*n*-butanone.
Benzeneazonaphthols.
Benzeneazo-α-naphthylamine.
Benzeneazo-β-naphthylauramine.
Benzeneazo-10-phenanthrol.
Benzeneazo-*p*-phenoxyacetic acid.
4-Benzeneazo-1-phenyl-3-benzylpyrazolone.
Benzeneazophenylcarbamic acid.
Benzeneazophenylglycine and -*p*-sulphonic acid.
Benzeneazophenylmethylglycine and -*p*-carboxylic and -*p*-sulphonic acids.
Benzene-5-azo-2:4-tetramethyl*di*aminotoluene.
Benzeneazotoluenes.
Benzene-5-azo-2:4-tolylenediamine.
Benzeneazo-*p*-tolyloxyacetic acid.
Benzenediazoamino-1-chloronaphthalene.
Benzenediazoaminotetrahydro-β-naphthalene.
Benzenediazoaminotoluenes.
Benzene*anti*diazo-hydrate.
Benzenediazo-iodide.
Benzenediazo-*p*-nitrophenylsulphone.
Benzenediazonium salts.
Benzene*anti*diazotate.
Benzenedisazofilicic acid.
Benzenedisazo-1:3:5-trihydroxyphenyl-*n*-butanone.
Benzophenone-*p*-*anti*diazo-compounds.
p-Benzoyl-amino- and -chloroaminoazobenzene.
Benzylazotate, potassium.
Bisazoxyacetic acid.
Bisdiazoacetic acid.
Carbanilophenylazoacetaldoxime.
4-Carboxybenzeneazo-1:3-diphenylpyrazolone.
4-Carboxybenzeneazo-3-phenyl-5-*iso*oxazolone.

Azo-compounds. See :—
Carboxyphenylazobenzoylacetic acid.
Cinnamylidene-*p*-aminoazobenzene.
Diazoacetamides.
Diazo-*p*-acetaminobenzene chloride.
Diazoacetic acid.
Diazoamines.
2-Diazoamino-1-chloronaphthalene.
Diazoamino-compounds.
Diazoaminotetrahydro-β-naphthalene.
Diazoaminotoluenes.
α-Diazoanthraquinone.
1-Diazoanthraquinone-2-sulphonic anhydride.
Diazobenzene.
Diazobenzene chloride.
Diazobenzene-*p*-sulphonic acid.
Diazo-2:6-*di*bromoanisole.
Diazo-chlorides.
Diazo-compounds.
Diazogallic acid.
*anti*Diazo-hydrates.
2-Diazonaphthalene-8-sulphonic anhydride.
Diazo*iso*nitrosomethyluracil.
Diazonium salts.
Diazothiosulphonates.
Diazotoluene chlorides.
3:3′-Dimethylazobenzene.
Dimethylketazine.
Dimethyl-*p*-phenylenediamine, diazochloride of.
Diphenyl-*p*-azophenylene.
Diphenylazophenylmethylglycine.
Diphenylbisazobenzoylacetic acid.
1:5-Diphenyl-3-methylpyrazole-4-azobenzene.
4-Ethoxyazobenzene.
*p-cyclo*Hexylbenzenediazonium sulphate.
p-Hydroxyazobenzene.
Hydroxyazonaphthalene-5:5′-disulphonic acid.
Hydroxyazoxybenzenes.
4-Hydroxy-5-benzeneazo-2:6-diphenylpyrimidine.
2-Hydroxy-1-benzeneazo-3-naphthoic acid.
3-Hydroxybenzeneazoxindone.
2-Hydroxy-5-methylazobenzene.
δ-Hydroxy-α-phenylazo-β-methylimino-δ-*p*-nitrophenylvaleric acid.
Methoxalylaminoazobenzene.
4-Methoxyazoxybenzene.
Methyl*di*amino-2:6-azobenzene.
Methylazobenzene.
Methylazotates.
Naphthaleneazobenzenesulphone.
Naphthalene-2-azo-β-naphthol.
β-Naphthalenediazoaminotetrahydro-β-naphthalene.
Naphthalenediazonium hydroxides.

Azo-compounds. See :—
Oxyazo-compounds.
Phenanthrolazobenzenesulphonic acids.
Phenylazoacetaldoxime.
Phenylazoacetoacetic acid.
Phenylazoacetylacetone.
Phenylazoacetyl-*p*-nitrobenzoylacetic acid.
Phenylazoalkylaldoximes.
Phenylazoaminocrotonic acid.
Phenylazobenzoyl-*p*-nitrobenzoylacetic acid.
Phenylazodibenzoylacetic acid.
Phenylazo-1:2-diketopentamethylene.
Phenylazodioxydiazinecarboxylic acid.
Phenylazoethylidenenitronic acid.
Phenylazomethylaminocrotonic acid.
Phenylazo-*m*-nitrobenzoylacetic acid.
α-Phenylazo-δ-nitrophenylpentane-δ-ol-β-onecarboxylic acid.
α-Phenylazo-δ-*p*-nitrophenylpentane-β-one-αδ-olide.
Phenylazoxyacetaldoxime.
Phenyldiazomethane.
α-Phenyl-β-6-diazo-3-methoxycinnamic acid.
p-Propionyl-amino- and -chloroamino-azobenzene.
Quinol *p*-azoxydiphenyl and *p*-azodiphenyl ethers.
Resorcinolazodiphenylaminesulphoxide.
4-Sulphobenzeneazo-1:3-diphenylpyrazolone.
Tetra-azo-*oo*-dimethoxydiphenyl chloride.
Tetra-azodiphenyl chlorides.
Tetra-azoditolyl chlorides.
Tetra-azoditolylsulphonic acid.
Tetra-azonium chlorides.
ar-Tetrahydronaphthaleneazo-β-naphthol.
Tetrahydro-β-naphthaleneazo-β-naphthylamine.
p-Toluene-5-azo-4:6-*di*amino-*m*-xylene.
p-Toluene-3-azo-5-chloro-2:4-tolylenediamine.
p-Tolueneazo-*p*-nitrobenzene.
p-Tolueneazo-*p*-phenoxyacetic acid.
p-Tolunediazoaminotetrahydro-β-naphthalene.
Toluene*anti*diazotates.
m-Toluene*anti*diazo-hydrate.
p-Toluene*anti*diazo-compounds.
p-Tolylamino-*m*-hydroxyphenyl-μ-cyanoazomethine-*p*-nitrobenzene.
p-Tolylamino-α-naphthyl-4-cyanoazomethine-*p*-nitrophenyl.
p-Tolylazoacetaldoxime.
o-Tolylazobenzoylacetic acid.

Azo-compounds. See :—
p-Tolylazocarbonamide.
o-Triazobenzaldoxime.
o-Triazobenzamide.
Vanillylidene-*p*-aminoazobenzene.
Xyleneazobenzenes.
s:*p*-**Azodibenzaldehyde** and its methyl ether and diphenylhydrazone (FREUNDLER), A., i, 650.
Azo-dyes (SEYEWETZ and BIOT), A., i, 509.
new system of classification of (BUCHERER), A., i, 577.
from the action of aromatic phenols and amines on the diazo-compounds of 4- and 6-chloroanthranilic acid (COHN), A., i, 63.
from phenylmethylglycine and phenylglycine (MAI), A., i, 249.
presence of diazoamino- or diazo-oxy-compounds in (VAUBEL), A., i, 407.
Azo-dyes, nitro-, action of sulphides, sulphites and hydrosulphites on (ROSENSTIEHL and SUAIS), A., i, 406.
o-nitro-, reduction of (ROSENSTIEHL and SUAIS), A., i, 406.
Azoimide, preparation of (TANATAR), A., ii, 450.
Azonium compounds, relation of oxazine and thiazine colouring matters to (KEHRMANN), A., i, 566.
Azophenine, $C_{31}H_{26}ON_4$, from aniline and nitroso-*m*-hydroxyphenyl-*p*-tolylamine (GNEHM and VEILLON), A., i, 287.
4:4′-Azophthalic acid and **5:5′-Azophthalide** (BOGERT and BOROSCHEK), A., i, 98.
4-*p*-Azotoluenepyrazolone-3-acetic acid, ethyl ester (KUFFERATH), A., i, 59.
Azoxyanisole and quinol, behaviour of a mixture of, on cooling (ROOZEBOOM), A., ii, 490.
m-**Azoxybenzaldehyde** and its phenylhydrazine (ALWAY), A., i, 697.
p-**Azoxybenzaldehyde** (ALWAY), A., i, 649, 697.
nitro- (ALWAY), A., i, 697.
o-**Azoxybenzaldoxime** (BAMBERGER and DEMUTH), A., i, 95.
Azoxybenzene and its derivatives, intramolecular rearrangement of atoms in (KNIPSCHEER), A., i, 648.
p-**Azoxybenzylidene-aniline** and **chloride** (ALWAY), A., i, 697.
Azoxybenzylidene-aniline and **-toluidines** (ALWAY), A., i, 649.
Azoxynaphthalene, 5:5′-*di*nitro- (WACKER), A., i, 506.
1:1′-Azoxynaphthalene-5:5′-di- and **-3:8:3′:8′-tetra-sulphonic acids** and their salts (WACKER), A., i, 506.
Azoxyphenyl ethers, *o*- and *p*- (HAEUSSERMANN and SCHMIDT), A., i, 126.
p-**Azoxy-*o*-toluidine** (ROSENSTIEHL and SUAIS), A., i, 406.

B.

Bacillus, butyric, occurrence and biological relations of the mobile (SCHATTENFROH), A., ii, 467.
coli communis, action of, on urine (NOËL-PATON), A., ii, 679.
fluorescens liquefaciens, action of, on albumin (EMMERLING and REISER), A., ii, 279.
lepræ, cultivation of (VAN HOUTUM), A., ii, 682.
megatherium, hæmolysin of (TODD), A., ii, 464.
mucus-forming (SCHARDINGER), A., ii, 469.
Bacteria, composition of the proteids and cell-membranes in (IWANOFF), A., ii, 279.
decomposition of butter fat by (LAXA), A., ii, 97.
decomposition of nitrates and nitrites by (MAASSEN), A., ii, 39.
effect of nitrates on (PAKES), A., ii, 97.
formation of oxalic acid by (BANNING), A., ii, 469.
formation of tyrosinase by (LEHMANN), A., i, 580.
common, transformation of, into parasites of roots (LEPOUTRE), A., ii, 467.
denitrifying and nitrifying. See Agricultural Chemistry.
pathogenic, variations in the products formed by (CHARRIN and GUILLEMONAT), A., ii, 576.
Bactericidal substances, formation of, in autolysis (CONRADI), A., ii, 35.
Bacteriolysis and hæmolysis (BULLOCH), A., ii, 94.
Balance, chemical, with constant load (GAWALOWSKI), A., ii, 202.
Balance Sheet of the Chemical Society, and of the Research Fund, March, 1901. See Annual General Meeting, T., 622.
Balsam, white Peru (BILTZ), A., i, 634.
Balsams, copaiva, resins of (TSCHIRCH and KETO), A., i, 166.
See also Resins.
Bananas. See Agricultural Chemistry.
Barium, preparation of (GUNTZ; STANSFIELD), A., ii, 138.
Barium alloys, with cadmium (GAUTIER), A., ii, 397.

Barium aluminate as a disencrusting agent (ARTH), A., ii, 399.
borates, action of carbon dioxide on (JONES), A., ii, 630.
bromide and iodide, temperature of maximum density and electrical conductivity of solutions of (DE COPPET and MULLER), A., ii, 488.
chloride, action of, on ammonium phosphates (BERTHELOT), A., ii, 258.
hydride and nitride, formation and stability of (GAUTIER), A., ii, 453.
*tetra*iodide (MEYER), A., ii, 319.
nitrate, spectrum of (HARTLEY), T., 570; P., **1902**, 68.
silicate, hydrated (WAHL), A., ii, 501.
sulphate, solubility of, in aluminium chloride, ferric chloride, and magnesium chloride (FRAPS), A., ii, 394.
as a reagent for colloidal metallic solutions (VANINO), A., ii, 249.
Barium organic compounds:—
cadmium thiocyanate (GROSSMANN), A., i, 663.
Barley. See Agricultural Chemistry.
Barylite (WEIBULL), A., ii, 408.
Barytes from the Province Caserta (FRANCO), A., ii, 211.
Base (m. p. 252–253°), from the reduction of dinitrohydroxyphenoxozone (HILLYER), A., i, 50.
from the dye from 2:3:8-trihydroxynaphthalene and diazotised sulphanilic acid (FRIEDLÄNDER and SILBERSTERN), A., i, 795.
$C_6H_{14}N_2$, and its salts, from the action of alkalis on methylchloroethylamine (MARCKWALD and FROBENIUS), A., i, 23.
$C_8H_{13}N$, from methylheptenoneoxime and phosphoric oxide (WALLACH), A., i, 79.
$C_8H_{15}N$, and its benzoyl and benzaldehyde derivatives, from the action of bromine on methylheptenylamine (WALLACH, MEYER, and MITTELSTENSCHEID), A., i, 81.
$C_8H_{19}ON$, and its platinichloride, from 3-keto-2:2:5:5-tetramethylpyrrolidine (PAULY), A., i, 560.
$C_9H_{17}N$, from the action of methyl iodide on methylheptenylamine (WALLACH, MEYER, and MITTELSTENSCHEID), A., i, 81.
$C_{10}H_{11}N$, from the condensation of pyrrole (PLANCHER), A., i, 640.
$C_{12}H_{15}N$ and $C_{12}H_{17}N$, and their salts, from 2:5-dimethylpyrrole (PLANCHER), A., i, 640.
Base, $C_{14}H_{18}O_4N_2$, and its salts and methiodide, from hydrocotarninecarboxylamide methiodide (FREUND and BAMBERG), A., i, 556.
$C_{16}H_9ON$, and its salts, from fluorenequinoline (DIELS and STAEHLIN), A., i, 830.
$C_{16}H_{10}O_4N_4$(?), from the oxidation of copyrine derivatives (GABRIEL and COLMAN), A., i, 401.
$C_{17}H_{21}ON$, and its picrate and benzoyl derivative from phenylchloromethylenecamphor (FORSTER), P., **1902**, 237.
$C_{17}H_{21}ON$, and its picrate and bromoderivative from enolic benzoylcamphor (FORSTER), P., **1902**, 237.
$C_{19}H_{20}N_2$, from the action of potassium hydroxide on cinchotinesulphonic acid (SCHMID), A., i, 53.
$C_{20}H_{23}ON$, from 2-*p*-methoxy-6-phenylstilbazole (OLLENDORFF), A., i, 828.
$C_{25}H_{21}ON_3$ and $C_{27}H_{25}ON_3$, from *p*-tolyl-α-naphthylamine and nitrosodimethyl- and -diethyl-*m*-aminophenol (GNEHM and RÜBEL), A., i, 146.
$C_{29}H_{23}ON$, and its salts, and bromoderivative, from the condensation of dimethylaminobenzaldehyde and β-naphthol (HEWITT, TURNER, and BRADLEY), T., 1208; P. **1902**, 181.
$C_{29}H_{25}O_2N$, and its anhydride, from the condensation of dimethylaminobenzaldehyde and β-naphthol (HEWITT, TURNER, and BRADLEY), T., 1208; P., **1902**, 181.
Bases, acids, and salts, dissociation of, at different temperatures (JONES and DOUGLAS), A., ii, 59.
from *d*-lupanine (SOLDAINI), A., i, 638.
in Scottish shale oil (GARRETT and SMYTHE), T., 449; P., **1900**, 190; **1902**, 47.
of complex function, colorimetric titration of (BERTHELOT), A., i, 199.
aromatic, preparation of, by the aid of formaldehyde (ERDMANN), A., i, 91.
new, from methyleneaniline and its homologues (ERDMANN), A., i, 91.
use of, for the precipitation and separation of the rare earth metals (JEFFERSON), A., ii, 534.
tertiary, preparation of, from their alkyl-haloids (PINNOW), A., i, 92.
organic, condensing action of (KNOEVENAGEL and SPEYER), A., i, 226.
compounds of, with thallic chloride (RENZ; MEYER), A., i, 393.

Bases, organic, separation of, from their phosphotungstic acid precipitates (WINTERSTEIN), A., ii, 294.
Basic slag. See Slag, basic, and also Agricultural Chemistry.
Basic substances, intensifying action of, on oxidising agents (SCHAER), A., ii, 140, 603.
Basicity, relative, of the amino-groups in substituted diamines (BÜLOW and LIST), A., i, 237, 312.
Bassia latifolia, sugar from the blossom of (v. LIPPMANN), A., ii, 420.
Baumhauerite (SOLLY and JACKSON), A., ii, 403.
Bauxite from Italy (FORMENTI), A., ii, 569.
Bay oil, myrcene from (HARRIES), A., i, 811.
Beans. See Agricultural Chemistry.
Bear, Isabella, bile of the (v. ZUMBUSCH), A., ii, 573.
Beer, origin of arsenic in (PETERMANN), A., ii, 471.
detection and estimation of minute quantities of arsenic in (REPORT OF JOINT COMMITTEE), A., ii, 288.
detection of artificial sweetening materials in (SARTORI), A., ii, 187.
Beetroots, estimation of potassium in (BOES), A., ii, 474.
estimation of sugar in (HILTNER and THATCHER), A., ii, 111.
See also Agricultural Chemistry.
Benz-. See also Benzo-, Benzoyl-, and under the Parent Substance.
Benzaldehyde, electrolytic production of (NITHACK), A., i, 291.
specific heat and heat of vaporisation of (LUGININ), A., ii, 548.
action of, on anisole, *p*-cresol and *o*- and *p*-tolyl methyl ethers (FEUERSTEIN and LIPP), A., i, 768.
condensation of, with benzyl methyl ketone (GOLDSCHMIEDT and KRCZMAŘ), A., i, 40.
condensation of, with ethyl cyanoacetate (GUARESCHI), A., i, 820.
action of, on methyl*di*amino-2:6-azobenzene (PERUCCHETTI), A., i, 330.
condensation of, with methyl ethyl ketone (HARRIES and MÜLLER), A., i, 295.
condensation of, with methyl propyl ketone (HARRIES and BROMBERGER), A., i, 792.
compound of, with mercuric chloride (STOLLÉ), A., i, 468.
Benzaldehyde, *p*-chloro-, compounds of, with amines (v. WALTHER and RAETZE), A., i, 466.
Benzaldehyde, *o*-nitro-, action of light on (CIAMICIAN and SILBER), A., i, 434.
p-nitro-, condensation of, with 2:4-lutidine (KNICK), A., i, 825.
2:4-*di*nitro-, and its oxime and phenylhydrazone (COHN and FRIEDLÄNDER), A., i, 376; (FRIEDLÄNDER and COHN), A., i, 791.
and its phenylhydrazones, and sodium hydrogen sulphite (SACHS and KEMPF), A., i, 377.
2:4:6-*tri*nitro- (SACHS, KEMPF, and EVERDING), A., i, 378.
nitroamino-, phenylhydrazone of (SACHS and KEMPF), A., i, 377.
Benzaldehyde-aniline, and **-*p*-nitroaniline** hydrochlorides (DIMROTH and ZOEPPRITZ), A., i, 293.
Benzaldehydebenzylmercaptal, *m*- and *p*-nitro- (POSNER), A., i, 623.
Benzaldehyde-dialkyl- and **-diarylsulphones**, *o*-, *m*-, and *p*-nitro- (POSNER), A., i, 622.
Benzaldehyde-*p*-dimethyl- and **-*p*-diethyl-anil**, *p-mono-* and 2:4-*di*-nitro- (SACHS and KEMPF), A., i, 377.
Benzaldehyde-β-naphthylamine hydrochloride (DIMROTH and ZOEPPRITZ), A., i, 293.
Benzaldehydephenylhydrazone-*p*-sulphonic acid hydrate, and *m*-nitro- (BILTZ, MAUÉ, and SIEDEN), A., i, 572.
2:4-*di*nitro- (SACHS and KEMPF), A., i, 377.
Benzaldehydepyrroylhydrazone (PICCININI and SALMONI), A., i, 491.
Benzaldehydesemicarbazone, 2:4-*di*nitro-, and 2:4-nitroamino-, and its *ON*-diacetyl derivative (SACHS and KEMPF), A., i, 682.
Benzaldoxime and *o*-amino- and *o*-nitro- (BAMBERGER and DEMUTH), A., i, 95.
2:4-*di*amino-, nitroamino-, and 2:4-*di*nitro- (SACHS and KEMPF), A., i, 377.
p-nitro-, *N-p*-formylphenyl ether, and its phenylhydrazone (ALWAY), A., i, 697.
*op-di*nitro-, and its benzoyl derivative (FRIEDLÄNDER and COHN), A., i, 791.
Benzamide, *p*-iodo- (MEYER), A., i, 31.
*op-di*nitro- (FRIEDLÄNDER and COHN), A., i, 791.
Benzamidine, action of, on β-bromo-ω-benzylacetophenone (KUNCKELL and SARFERT), A., i, 835.
action of mucobromic and mucochloric acids on (KUNCKELL and v. ZUMBUSCH), A., i, 835.

Benzanilide, *o*-bromo-, 2:4-*di*bromo- and -*di*chloro-, 2:4- and 4:2-chlorobromo- (CHATTAWAY and WADMORE), T., 985; P., **1902**, 173.

Benzene, stereochemical formulæ of (MARSH), T., 961; P., **1902**, 164; (GRAEBE), A., i, 209; (MARCKWALD), A., i, 274; (VAUBEL), A., i, 361.
molecular rise of boiling point of, at different temperatures (INNES), T., 683; P., **1902**, 26.
catalysis by iodine in the bromination of (BRUNER), A., ii, 447.
reaction of, with cellulose (NASTUKOFF), A., i, 362, 747.
action of copper nitrate on (WASSILIEFF), A., i, 361.
condensation of, with diphenic anhydride (GÖTZ), A., i, 372.
action of sulphur chloride on (LIPPMANN and POLLAK), A., i, 750.
influence of, on the rotation of ethyl tartrate (PATTERSON), T., 1097; P., **1902**, 133.

Benzene, halogen derivatives, condensation of, with carbon tetrachloride (NORRIS and GREEN), A., i, 379.
bromo- and chloro-, vapour pressures and boiling points of mixtures of (YOUNG and FORTEY), T., 771; P., **1902**, 107.
3:4:5-*tri*bromonitro-, derivatives of (JACKSON and FISKE), A., i, 362.
2:4:6-*tri*bromo-1-nitroamino-, and 2:4:6-*tri*chloro-1-nitroamino- (ORTON), T., 491; P., **1902**, 59.
1-chloro-2:4-*di*nitro-, action of sodium nitrite on (KYM), A., i, 16.
compounds of, with 4:4′-tetramethyl- and 4:4′-tetraethyl*di*aminodiphenylmethane (LEMOULT), A., i, 751.
1-chloro-2:4:6-*tri*nitro-, compound of, with 4:4′-tetramethyl*di*aminodiphenylmethane (LEMOULT), A., i, 751.
1:3-*di*chloro-4:6-*di*nitro-, derivatives of (BLANKSMA and MEERUM TERWOGT), A., i, 715.
1-chloronitroamino-2:4:6-*tri*chloro-, -2:4:6-*tri*- and -2:3:4:6-*tetra*-bromo-, and -4-chloro-2:6-*di*bromo- (ORTON), T., 966; P., **1902**, 174.
1-chloro-4:6-*di*nitro-2-cyano- (BLANKSMA), A., i, 281.
iodo-, iodoamino-, and iodonitro-derivatives of (WILLGERODT and ARNOLD), A., i, 16.
isomeric iodonitro-derivatives, simultaneous formation of (HOLLEMAN and DE BRUYN), A., i, 87.

Benzene, *s*-*di*iodonitro-, containing polyvalent iodine, derivatives of (WILLGERODT and ERNST), A., i, 17.
3:6-*di*iodonitro- (BRENANS), A., i, 673.
nitro-, action of light on (CIAMICIAN and SILBER), A., i, 433.
1:3:5-*tri*nitro-, reduction of, with hydrogen sulphide (COHEN and DAKIN), T., 26; P., **1901**, 214.
nitroamino-, action of chlorine and bromine on (ORTON), T., 965; P., **1902**, 174.
1-nitroamino-*di*-, -*tri*-, and -*tetra*-halogen- and 1-nitroamino-*di*- and -*tri*-halogennitro-, preparation of (ORTON), T., 806; P., **1902**, 111.
nitroso-, spontaneous decomposition of (BAMBERGER), A., i, 505.
action of alcoholic potassium hydroxide or formaldehyde on (BAMBERGER), A., i, 279.

Benzenes, halogenised, influence of alkyl groups on the activity of (KLAGES and STORP), A., i, 670.

Benzene-5-azo-2:4- and **-4:6-*di*amino-*m*-xylene**, and their diacetyl derivatives (MORGAN), T., 94; P., **1901**, 237.

Benzeneazoaspidinol (BOEHM), A., i, 37.

Benzene-*p*-azobenzaldehyde and its methyl ether and phenylhydrazone (FREUNDLER), A., i, 650.

Benzeneazo-benzaldehyde and its phenylhydrazone, and **-benzylideneaniline** (ALWAY), A., i, 697.

Benzeneazobromo-α-naphthol and its ethyl ether, and acetyl derivative (HEWITT and AULD), T., 174; P., **1901**, 264.

Benzene-4- and **-2-azo-2:5-** and **-4:6-*di*-chloro-*m*-phenylenediamines**, *p*-nitro- (MORGAN and NORMAN), T., 1383; P., **1902**, 185.

Benzene-3-azo-5-chloro-2:4-tolylenediamine, and **Benzene-6-azo-2-chloro-3:5-tolylenediamine** and their dibenzoyl and diacetyl derivatives (MORGAN), T., 96; P., **1901**, 237.

Benzeneazo-*p*-cresolmercury salts (DIMROTH), A., i, 850.

Benzeneazodihydroxynaphthalene (FRIEDLÄNDER and SILBERSTERN), A., i, 794.

Benzeneazofilicyl-*n*-butanone (BOEHM), A., i, 36.

Benzeneazo-*o*-hydroxyazoxybenzene (BAMBERGER), A., i, 505.

Benzeneazo-*o*-hydroxyphenolmercury salts (DIMROTH), A., i, 850.

Benzeneazomethylphloroglucinol-*n*-butanone (BOEHM), A., i, 38.

Benzeneazo-α-naphthol, relationship between the orientation of substituents in, and the constitution of; and its isomeric bromo-compounds and their acetyl derivatives (HEWITT and AULD), T., 171; P., **1901**, 264.

Benzeneazo-β-naphthol, action of bromine and of nitric acid on (HEWITT and AULD), T., 1202; P., **1902**, 180.

o-, *m*-, and *p*-bromo-, and their acyl derivatives (HEWITT and AULD), T., 1206; P., **1902**, 180.

Benzeneazo-α-naphthylamine, *p*-chloro-, and its hydrochloride (BAMBERGER and GROB), A., i, 248.

Benzeneazo-β-naphthylauramine (MÖHLAU and GRAELERT), A., i, 63.

Benzeneazo-α-naphthyl- and **-phenylleucauramine** (GNEHM and WRIGHT), A., i, 295.

Benzeneazo-10-phenanthrol (WERNER), A., i, 439.

Benzeneazo-*p*-phenoxyacetic acid and its derivatives and **-*p*-sulphonic acid** (MAI and SCHWABACHER), A., i, 126.

4-Benzeneazo-1-phenyl-3-benzylpyrazolone (BÜLOW and HAILER), A., i, 326.

Benzeneazophenylcarbamic acid, methyl ester (MAI), A., i, 250.

Benzeneazophenylglycine and its **-*p*-sulphonic acid** (MAI), A., i, 250.

Benzeneazophenylmethylglycine and its **-*p*-carboxylic** and **-*p*-sulphonic acids** (MAI), A., i, 249.

Benzene-5-azo-2.4-tetramethyl*di*aminotoluene, *p*-nitro- (MORGAN), T., 656; P., **1902**, 87.

Benzeneazotoluenes (MEHNER), A., i, 577.

Benzene-5-azo-2:4-tolylenediamine and its diacetyl derivative (MORGAN), T., 94; P., **1901**, 237.

p-bromo-, and its acyl derivatives (MORGAN and NORMAN), T., 1384; P., **1902**, 185.

Benzeneazo-*p*-tolyloxyacetic acid (MAI and SCHWABACHER), A., i, 127.

Benzeneazo-. See also Phenylazo-.

Benzene-2-diazoamino-1-chloronaphthalene, *o*- and *m*-nitro- (MORGAN), T., 1380; P., **1902**, 185.

p-nitro-, and its ethyl derivative (MORGAN), T., 99; P., **1901**, 238.

Benzenediazoaminotetrahydro-β-naphthalene, *p*-bromo-, and *o*- and *p*-nitro- (SMITH), T., 904; P., **1902**, 137.

Benzenediazoaminotoluenes, and nitro- (MEHNER), A., i, 577.

Benzene*anti*diazo-hydrate and **Benzene-*anti*diazotate**, potassium derivative, 2:4:6-*tri*bromo- (HANTZSCH and POHL), A., i, 843.

Benzenediazo-iodide, *p-mono-* and 2:4-*di*-bromo- (EULER and HANTZSCH), A., i, 191.

Benzenediazo-*p*-nitrophenylsulphone, *p*-nitro- (EKBOM), A., i, 327.

Benzenediazonium. See Diazonium.

***m*-Benzenedibenzyldisulphone** (AUTENRIETH and HENNINGS), A., i, 390.

Benzenedisazofilicic acid (BOEHM), A., i, 36.

Benzenedisazo-1:3:5-trihydroxyphenyl-*n*-butanone (BOEHM), A., i, 39.

***m*-Benzenedisulphoneanilide** and its diacetyl and dibenzyl derivatives (AUTENRIETH and HENNINGS), A., i, 389.

***m*-Benzenedisulphonehydroxylamine** (AUTENRIETH and HENNINGS), A., i, 390.

***m*-Benzene*di*iododimethyldisulphone** (AUTENRIETH and HENNINGS), A., i, 389.

Benzenepentacarboxylic acid and its potassium hydrogen salts (WOLFF, GABLER, and HEYL), A., i, 678.

Benzene ring, gradual synthesis of the (DELACRE), A., i, 774.

Benzenesulphinic acid, *p*-iodo- (TRÖGER and HURDELBRINK), A., i, 275.

Benzenesulphomethylchloroethylamide (MARCKWALD and FROBENIUS), A., i, 23.

Benzenesulphonanilide, action of sodium hypochlorite on (COHEN and THOMPSON), P., **1901**, 262.

Benzenesulphonic acid, 3- and 10-phenanthryl esters (WERNER), A., i, 438.

p-nitro- (EKBOM), A., i, 274.

Benzene-*m*-sulphonic chloride, action of arylamines on (TRÖGER and MEINE), A., i, 537.

Benzenesulphophenanthraquinones, 2- and 3- (WERNER), A., i, 627.

Benzenethiosulphonic acids, *p*-halogen- and their salts (TRÖGER and HURDELBRINK), A., i, 274.

***m*-Benzene*di*thiosulphonic acid**, alkaloidal and metallic salts (TRÖGER and MEINE), A., i, 599

Benzenoid amines. See Amines.

Benzenoid aminosulphonic acids, acetyl derivatives of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 445.

Benzhydrol, preparation of (MÖHLAU and HEINZE), A., i, 243.

Benzhydroxamic acid (PICKARD, ALLEN, BOWDLER, and CARTER), T. 1573.

Benzhydryl-5-fluorenol and its diacetate, and oxidation (GÖTZ), A., i, 373.

β-Benzhydrylpicolinolactone (JEITELES), A., i, 62.

Benzidine, formation of, from hydrazobenzene (CHATTAWAY), P., **1902**, 175; (RASSOW and RÜLKE), A., i, 404; (SACHS and WHITTAKER), A., i, 510.

and its dipicrate, and dyes from its diazotisation (SCHULTZ and FLACHSLÄNDER), A., i, 751.

Benzidine*di*-*p*-chloromandelonitrile (v. WALTHER and RAETZE), A., i, 467.

Benzidinedimalonic acid, ethyl ester (MOIR), P., **1902**, 195.

Benzil, action of semicarbazide on (POSNER), A., i, 82; (BILTZ and ARND), A., i, 245.

4:4′-*di*chloro- (MONTAGNE), A., i, 472.

Benzilanilide (LAMBLING), A., i, 756.

Benzildisemicarbazone (BILTZ and ARND), A., i, 245.

Benzilic acid (*hydroxydiphenylacetic acid*, *diphenylglycollic acid*), ethyl ester, phenylurethane of (LAMBLING), A., i, 756.

4:4′-*di*chloro-, and its silver salt and methyl ester (MONTAGNE), A., i, 473.

Benzilmonosemicarbazones, α- and β- (POSNER), A., i, 82; (BILTZ and ARND), A., i, 245.

Benzimino-ethyl ether, action of sodamide on (TITHERLEY), T., 1529.

"**Benzine**," commercial (RABINOVITSCH), A., i, 333.

Benzo-. See also Benz-, Benzoyl-, and under the Parent Substance.

2:7-Benzodiazine. See Copyrine.

Benzoic acetic *per*oxide, formation, decomposition and germicidal action of (FREER and NOVY), A., i, 368.

Benzoic acid, synthesis of, as a lecture experiment (ZELINSKY), A., i, 675.

and its salts, detection of, in food (DE BREVANS), A., ii, 112.

Benzoic acid, salts, solubilities of (TARUGI and CHECCHI), A., i, 204.

anhydrous mercuric salt, and the action of heat on (DIMROTH), A., i, 851.

silver salt, solubility of (LIEBERMANN), A., i, 368.

Benzoic acid, esters, action of sodamide and its acyl derivatives on (TITHERLEY), T., 1527; P., **1902**, 187.

chloromethyl ester (DESCUDÉ), A., i, 149, 339, 451.

methyl ester, *o*-sulphonic chloride of (BASLER CHEMISCHE FABRIK), A., i, 363.

methylene ester (DESCUDÉ), A., i, 149, 451.

Benzoic acid, 2-amino-. See Anthranilic acid.

m-amino-, reduction of (BAUER and EINHORN), A., i, 224.

3-amino-, and 2-chloro-3-amino (HOLLEMAN and VOERMAN), A., i, 451.

m-, and *p*-amino-, esters, action of formaldehyde on (GOLDSCHMIDT), A., i, 716.

2:4- and 2:6-*di*amino- (SEIDEL and BITTNER), A., i, 719.

2:3:5-*tri*amino-, and its sulphate (COHN and SCHIFFERES), A., i, 730.

p-bromo-, and its hydrazine derivative (CURTIUS and FRANZEN), A., i, 832.

isomeric bromonitro- and chloronitro-derivatives, electrical conductivity of (HOLLEMAN and DE BRUYN), A., i, 94.

m-chloro-, azoimide and hydrazide of (FOERSTER), A., i, 58.

2-chloro-3:5-*di*amino- and its diacetyl derivative and hydrochloride and sulphate (COHN and SCHIFFERES), A., i, 730.

2-chloro-5-nitro- and 2-chloro-3:5-*di*nitro- (PURGOTTI and CONTARDI), A., i, 777.

2-chloro-3:5-*di*nitro-, and its salts, esters and anhydride (PURGOTTI and CONTARDI), A., i, 778.

p-nitro-*o*-nitroso-, and its methyl ester and azo-compound (COHN and FRIEDLÄNDER), A., i, 377; (FRIEDLÄNDER and COHN), A., i, 792.

o-nitroso-, action of, on paraldehyde (CIAMICIAN and SILBER), A., i, 378.

thio-, action of thiocyanates on (WHEELER and MERRIAM), A., i, 537.

thiol-, methylene ester (WHEELER and MERRIAM), A., i, 538.

triphenylmethyl ester (WHEELER), A., i, 29.

Benzoic chloride, action of ammonium thiocyanate on (BENSON and HILLYER), A., i, 27.

3:5-*di*nitro- (BEREND and HEYMANN), A., i, 470.

Benzoic cyanides, imino-, substituted, preparation of (SACHS and GOLDMANN), A., i, 780.

Benzoic *per*oxide, formation, decomposition and germicidal action of (FREER and NOVY), A., i, 369.

Benzoic-acetic acid, methylene ester (DESCUDÉ), A., i, 339.

***o*-Benzoic sulphinide**. See "Saccharin."

Benzoic-*o*-, -*m*-, and -*p*-toluic acids, methylene esters (DESCUDÉ), A., i, 339.

Benzoin, action of potassium hydroxide on (KNOEVENAGEL and ARNDTS), A., i, 548.

Benzonitrile, latent heat of vaporisation of (KAHLENBERG), A., ii, 195.

2:4-*di*nitro- (COHN and FRIEDLÄNDER), A., i, 377; (FRIEDLÄNDER and COHN), A., i, 791.

3:5-*di*nitro-2-amino- (BLANKSMA), A., i, 281.

Benzophenone, 2:2′-*di*amino-, and its salts and diacetyl derivative (BERTRAM), A., i, 436.

*s-op-di*amino-, and its salts and diacetyl derivative (BENÖHR), A., i, 435.

chloro- and bromo-derivatives of (NORRIS and GREEN), A., i, 379.

4:4′-*di*chloro-, and its 3-amino- and 3-*mono*- and *di*-nitro-derivatives (MONTAGNE), A., i, 473.

o-nitro- (v. TATSCHALOFF), A., i, 435.

2:2′-*di*nitro- (BERTRAM), A., i, 436.

Benzophenoneaniline hydrochloride (DIMROTH and ZOEPPRITZ), A., i, 293.

Benzophenone-benzylmercaptal and **-dibenzylsulphone** (POSNER), A., i, 622.

Benzophenone-*p-anti*diazo-hydrate and **-*p*-nitrosoamine** (HANTZSCH and POHL), A., i, 843.

Benzophenonedi-benzyl- and **-ethyl-sulphones**, *m*- and *p*-nitro- (POSNER), A., i, 623.

Benzophenonediethylsulphone, *m*-amino- (POSNER), A., i, 624.

o-**Benzophenone-mercury** salts (DIMROTH), A., i, 851.

1:4-Benzopyranol derivatives (BÜLOW and GROTOWSKY), A., i, 554.

Benzo-1:4-pyrone. See Chromone.

Benzosulphurylphenylglycinecarboxylic acid (VORLÄNDER, MUMME, and WANGERIN), A., i, 454.

1:3:7-Benzotriazine. See Copazoline.

Benzoximinoketolactone and its reactions (STOERMER and KAHLERT), A., i, 457.

Benzoyl-. See also Benz-, Benzo-, and under the Parent Substance.

Benzoylacetic acid, *m*-nitro-, and its acetyl derivative, ethyl esters (BÜLOW and HAILER), A., i, 327.

Benzoylacetoacetic acid, 3:5-*di*nitro-, ethyl ester (BEREND and HEYMANN), A., i, 470.

Benzoylacetyl-*o*-acetanilide (CAMPS), A., i, 396.

Benzoylacetylacetone, 3:5-*di*nitro- (BEREND and HEYMANN), A., i, 470.

p-**Benzoyl-amino-** and **-chloroamino-azobenzene** (CHATTAWAY), T., 983; P., **1902**, 174.

Benzoyl-*o*-aminodiphenylamine (BIEHRINGER and BUSCH), A., i, 575.

l-**Benzoyl-*d*-** and *d*-**Benzoyl-α-amino-*n*-hexoic acids** (FISCHER and HAGENBACH), A., i, 86.

4-Benzoylaminophenol, 2-bromo-6-nitro- (ROBERTSON), T., 1478; P., **1902**, 190.

o-**Benzoylbenzoic** chloride, *tetra*chloro- (TÉTRY), A., i, 372.

Benzoylbenzyl-carbamide and **-ethyl-ψ-carbamide** (WHEELER and JOHNSON), A., i, 366.

Benzoyl-bromo- and **-chloro-camphors**, *aa-*, *a′a-*, and *aa′-m*-nitro- (FORSTER and MICKLETHWAIT), T., 409; P., **1902**, 55.

Benzoyl-*o*-bromophenylnitrogen bromide and **chloride** (CHATTAWAY and WADMORE), T., 986; P., **1902**, 173.

Benzoylbutyrylmethane (MOUREU and DELANGE), A., i, 164.

Benzoylcamphor, enolic, constitution of (FORSTER), P., **1902**, 237.

enolic *o*- and *m*-nitro-, and the acetyl derivative of the *m*-compound (FORSTER and MICKLETHWAIT), T., 410; P., **1902**, 55.

α-**Benzoylcamphor**, stereoisomeric halogen derivatives of (FORSTER and MICKLETHWAIT), T., 160; P., **1901**, 257.

Benzoyl-*o*-chlorophenylnitrogen bromide and **chloride** (CHATTAWAY and WADMORE), T., 984; P., **1902**, 173.

Benzoylcochenillic anhydride (LIEBERMANN and LINDENBAUM), A., i, 788.

Benzoyldiacetylethane, reactions of (MARCH), A., i, 484.

Benzoyl-2:4-diethoxyacetophenone (v. KOSTANECKI and RÓŻYCKI), A., i, 106.

Benzoyldimethylmalonic acid (OPPENHEIM), A., i, 186.

Benzoyldiphenylbenzenylamidine (LANDER), T., 594; P., **1902**, 73.

Benzoyl-ψ-ethylphenylsemicarbazide (WHEELER and BEARDSLEY), A., i, 503.

Benzoyl-*o*-flavaniline (CAMPS), A., i, 178.

Benzoyl-5-fluorenone and its oxime and phenylhydrazone, and reduction of (GÖTZ), A., i, 372.

Benzoylformoxime, *m*-nitro- (CAMPS), A., i, 295.

Benzoyl-glycyl- and **-glycylglycyl-aminoacetic acids**, and their azoimides and hydrazides (CURTIUS), A., i, 844.

Benzoylglycylglycylglycylaminoacetic acid and its amide (CURTIUS), A., i, 844.

Benzoylhydrazine and *di*-*p*-bromo- (CURTIUS and FRANZEN), A., i, 832.

s-**Benzoylhydrazine**, *m*-chloro- (FOERSTER), A., i, 58.
Benzoyliminomethylene ethylene and phenylethylene disulphides (WHEELER and MERRIAM), A., i, 538.
1-Benzoylimino-2-phenylthiodiazoline (WHEELER and BEARDSLEY), A., i, 503.
N-**Benzoylindoxylic acid**, ethyl ester (FARBWERK MÜHLHEIM VORM. A. LEONHARDT & Co.), A., i, 456.
diethyl ester (VORLÄNDER, MUMME, and WANGERIN), A., i, 455.
Benzoylindoxyls, 1- and 3- (VORLÄNDER and DRESCHER), A., i, 720.
αα-**Benzoyliodocamphor** (FORSTER and JENKINSON), P., **1902**, 117.
Benzoyllupinine, and its hydrochloride (MERCK), A., i, 486.
Benzoyl-*p*-nitrobenzoylacetic acid, ethyl ester (BÜLOW and HAILER), A., i, 327.
αα-**Benzoylnitrocamphor** and nitro- (FORSTER and JENKINSON), P., **1902**, 117.
1-Benzoyloxycamphene and **Benzoyloxyolefines**, formation of (LEES), P., **1902**, 213.
Benzoyloxyphenanthraquinones, 2- and 3- (WERNER), A., i, 627.
Benzoylphenylacetylene (MOUREU and DELANGE), A., i, 164.
Benzoyl-phenyl- and **-phenylene-guanidines** (WHEELER and JOHNSON), A., i, 27.
Benzoylphenylhydrazine, nitroso-, and its metallic derivatives (VOSWINCKEL), A., i, 571.
β-**Benzoyl-*α*-phenyl-*β*-methylhydrazine** and *α*-nitroso- (VOSWINCKEL), A., i, 571.
Benzoylphenylsemithiocarbazide (WHEELER and BEARDSLEY), A., i, 502.
β-**Benzoylpicolinic acid** and its esters (JEITELES), A., i, 62.
Benzoylpyridines, 2- and 4-, and their oximes, phenylhydrazone, and salts (TSCHITSCHIBABIN, A., i, 175.
Benzoyltartaric acid, ethyl ester, nitration of (FRANKLAND, HEATHCOTE, and GREEN), P., **1902**, 251.
5-Benzoylthioacridol and its picrate (EDINGER and ARNOLD), A., i, 181.
Benzoyl*di*thiocarbamic acid, diethyl malonate and ethyl phenylacetate derivatives of (WHEELER), A., i, 28.
ethyl *iso*butyrate derivative of (WHEELER and JOHNSON), A., i, 761.
*iso*propyl derivative (WHEELER and JAMIESON), A., i, 763.
Benzoyl*di*thiocarbamic acid methylene esters (WHEELER and MERRIAM), A., i, 537.
Benzoyl-*ψ*-thiocarbamides (WHEELER and JOHNSON), A., i, 26.
Benzoylthiocarbimide, action of, on toluene and on hydrogen phosphide (WHEELER), A., i, 29.
Benzoylthioglycoll-*o*-toluidide (WHEELER and JOHNSON), A., i, 759.
Benzoylthymol, action of formaldehyde on (GOLDSCHMIDT), A., i, 716.
Benzoyl-*p*-tolyl-carbamide and **-ethyl-*ψ*-carbamide** (WHEELER and JOHNSON), A., i, 366.
6-Benzoyl-1:2:4- and **-1:4:2-xylenols** and their acetates and methyl ethers (BARTOLOTTI and LINARI), A., i, 792.
Benzyl, displacement of, by methyl in substituted nitrogen compounds (JONES), P., **1901**, 205.
Benzyl alcohol, specific heat and heat of vaporisation of (LUGININ), A., ii, 548.
action of phosphorus trithiocyanate on (DIXON), T., 171; P., **1901**, 261.
Benzyl alcohol, *o*-chloro- (RAIKOW and RASCHTANOW), A., i, 721.
2:4-*di*nitro- (COHN and FRIEDLÄNDER), A., i, 376; (FRIEDLÄNDER and COHN), A., i, 791.
Benzyl carbonate and chlorocarbonate, *α*-chloro- (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 78.
chloride, action of ammonia on (DHOMMÉE), A., i, 24.
and iodide, action of, on pyridine (TSCHITSCHIBABIN), A., i, 395.
chloride, *op-di*nitro- (FRIEDLÄNDER and COHN), A., i, 790.
p-nitro-*m*-cyano- (EHRLICH), A., i, 26.
cyanide. See Phenylacetonitrile.
cyanides, amino-, substituted, preparation of (SACHS and GOLDMANN), A., i, 780.
*αββδ-tetra*chloroethyl carbonate, *α*-chloro- (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 78.
mercaptan, *m*-cyano- (EHRLICH), A., i, 26.
hydrogen sulphate, *p*-nitro- (FRIEDLÄNDER and COHN), A., i, 791.
thiocyanate, *m*-cyano- (EHRLICH), A., i, 25.
ω-**Benzylacetophenone**, *β*-bromo-, action of, on benzamidine (KUNCKELL and SARFERT), A., i, 835.
Benzylalkylanilines and their salts (v. BRAUN and SCHWARZ), A., i, 365.
Benzylallylpiperidinium bromide (WEDEKIND), A., i, 234.
Benzylamine, formation of (DHOMMÉE), A., i, 24.
additive salts of (DHOMMÉE), A., i, 601.

Benzylamine, *m*- and *p*-cyano-, and their salts (EHRLICH), A., i, 25.

β-Benzylaminocrotonic acid, menthyl ester (LAPWORTH and HANN), T., 1505; P., **1902**, 145.

Benzyl *iso*amyl ketone and its semicarbazone (BLAISE), A., i, 164.

Benzylaniline, oxidation of (HÜBNER), A., i, 277.

Benzylaniline, 2:4-*di*nitro-, and its salts (SACHS, KEMPF, and EVERDING), A., i, 378.

and its salts and -*p*-**sulphonic acid** and its salts (COHN and FRIEDLÄNDER), A., i, 376; (FRIEDLÄNDER and COHN), A., i, 790.

Benzylazotate, potassium, and its alcoholate (HANTZSCH and LEHMANN), A., i, 325.

Benzylbromomalonic acid, methyl ester (CONRAD and REINBACH), A., i, 530.

Benzylcamphor, bromo-, crystallography of (MINGUIN), A., i, 685.

Benzylcarboxyaconitic acid, ethyl ester (RUHEMANN), T., 1214; P., **1902**, 181.

o-**Benzyl*tetra*chlorobenzoic** chloride, ω-*di*chloro- (TÉTRY), A., i, 372.

Benzyl cinnamenyl ketone (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.

Benzyldi-ethyl- and **-propyl-amines** and their salts (v. BRAUN and SCHWARZ), A., i, 365.

Benzyl-4-(or 5-)ethoxyphenylketoxime-2-carboxylic acid, oximino-lactone of (ONNERTZ), A., i, 99.

Benzyl-β-ethoxyphthalide (ONNERTZ), A., i, 99.

Benzylethylaniline and its *m*- and *p*-amino-, *m*-nitro-, and *p*-nitroso-derivatives and their salts (SCHULTZ and BOSCH), A., i, 364.

γ-Benzylethyl methyl ketone (HARRIES and MÜLLER), A., i, 296.

Benzyl-5-fluorene (GÖTZ), A., i, 373.

β-Benzyl-*o*-hydrazinobenzoic acid and anhydride (FISCHER and BLOCHMANN), A., i, 646.

Benzylidene diacetates, *o*- and *p*- (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 102.

γ-Benzylideneacetone, α-nitro- (HARRIES), A., i, 185.

Benzylidene-acetone- and **-acetophenone**, *p*-chloro-, and their oximes (v. WALTHER and RAETZE), A., i, 467.

Benzylideneacetophenone, compounds of, with β-methy*cyclo*hexanone and with *cyclo*pentanone (STOBBE), A., i, 472.

*di*bromides (POND, YORK, and MOORE), A., i, 105.

Benzylideneacetophenone, *o*-, *m*-, and *p*-nitro-, and their dibromides, and semicarbazones (SORGE), A., i, 379.

Benzylideneacetophenone-acetoacetic acid, ethyl ester (KNOEVENAGEL and SPEYER), A., i, 227.

Benzylideneaminoacetonitrile (KLAGES), A., i, 355.

Benzylidene-*m*-amino- and **-*m*-nitro-acetophenone**, *m*-amino- and *m*-nitro- (RUPE and WASSERZUG), A., i, 40.

Benzylideneaniline, isomeric additive products of, with benzyl methyl, ethyl, and propyl ketones (FRANCIS and LUDLAM), T., 956; P., **1902**, 132.

Benzylideneaniline, *m*-nitro-, isomeric additive compounds of, with deoxybenzoin and with dibenzyl ketone (FRANCIS), T., 441; P., **1902**, 57.

2:4-*di*nitro- (COHN and FRIEDLÄNDER), A., i, 376; (SACHS and KEMPF), A., i, 377; (FRIEDLÄNDER and COHN), A., i, 791.

action of light on, in benzene solution (SACHS and KEMPF), A., i, 682.

Benzylidene-*p*-anisylideneacetone (v. BAEYER and VILLIGER), A., i, 770.

Benzylideneazine, 2:4:2′:4′-*tetra*nitro- (SACHS and KEMPF), A., i, 377.

Benzylidenebenzidine, 2:4-*di*nitro- (SACHS and KEMPF), A., i, 682.

4-Benzylidenebis-3-phenyl-5-pyrazolone and **4-Benzylidene-1-*p*-bromophenyl-3-phenyl-5-pyrazolone** (RABE and ELZE), A., i, 711.

Benzylidenecamphor, crystallographic properties of (MINGUIN), A., i, 632.

and bromo-, enantiomorphism of (MINGUIN), A., i, 798.

bromo-derivatives, crystallography of (MINGUIN), A., i, 685.

Benzylidenecamphoroxime and its benzoyl derivative, and phenylcarbamate (FORSTER), P., **1902**, 90.

Benzylidenedeoxybenzoin and its isomeride (STOBBE and NIEDENZU), A., i, 103.

Benzylidenedimethyl-*p*-phenylenediamine, 2-chloro-4-nitro-, 2:4-*di*- and 2:4:6-*tri*-nitro- (SACHS), A., i, 119.

Benzylidene-β-dinaphthyl oxide and anhydride and their salts (WERNER), A., i, 50.

p-nitro- (ULLMANN, RACOVITZA, and ROZENBAND), A., i, 240.

Benzylidenedivanillin and its hexaacetate (ROGOFF), A., i, 103.

m- and *p*-nitro-, and their hexaacetates (ROGOFF), A., i, 547.

Benzylidene-β-ethoxy-phthalide and **phthalimidine** (ONNERTZ), A., i, 99.

γ-Benzylidene-ethyl methyl ketone, and its oxime, phenylhydrazone, and dibromo-derivative (HARRIES and MÜLLER), A., i, 296.

Benzylideneglucosamine (ROUX), A., i, 266.

α-Benzylideneglutaconic acid, and its potassium salt (HENRICH), A., i, 422.

Benzylidenehydrazine and its acyl and *m*-chloro-derivatives (CURTIUS and FRANZEN), A., i, 831.

Benzylidene-*o*-hydrazinobenzoic acid (FISCHER and BLOCHMANN), A., i, 645.

α-Benzylidenelævulic acid (THIELE, TISCHBEIN, and LOSSOW), A., i, 155.

Benzylidenemalic acid and anhydride (THIELE, TISCHBEIN, and LOSSOW), A., i, 156.

Benzylidenemalonic acid, *op-di*nitro- and its salts and diethyl ester (FRIEDLÄNDER and FRITSCH), A., i, 783.

Benzylidenementhones, isomeric, and their oximes (MARTINE), A., i, 629.

Benzylidene-*p*-methylacetophenone and *o*-, *m*-, and *p*-nitro-, and their semicarbazones (SORGE), A., i, 380.

Benzylidene-methyl- and **-ethyl-amines**, *o*-nitro- (ANDREE), A., i, 210.

Benzylidenemethyl ethyl ketone and its oxime, phenylhydrazone, and dibromo-derivative (HARRIES and MÜLLER), A., i, 295.

Benzylidene-α-methylpentanone (SPERANSKI), A., i, 385.

Benzylidenemethyl propyl ketone and its oxime, phenylhydrazone, and semicarbazone and dibromo-compound of the oxime (HARRIES and BROMBERGER), A., i, 792.

Benzylidenemethyl *iso*propyl ketone and its oxime and semicarbazone (LAPWORTH and HANN), T., 1489; P., **1902**, 141.

Benzylidene-α-naphthylamine, *op-di*nitro- (FRIEDLÄNDER and COHN), A., i, 791.

Benzylidene-*m*-nitroaniline, isomeric additive compounds of, with deoxybenzoin and with dibenzyl ketone (FRANCIS), T., 441; P., **1902**, 57.

Benzylidenephenylacetylhydrazide (BOETZELEN), A., i, 58.

Benzylidenephenylsemithiocarbazide (CURTIUS and FRANZEN), A., i, 831.

Benzylidenepropyl methyl ketone and its oxime, phenylhydrazone, and semicarbazone (HARRIES and BROMBERGER), A., i, 792.

Benzylidene*di*thio-*p*-urazine (PURGOTTI and VIGANÒ), A., i, 323.

Benzylidene-thujamenthone and **-*iso*thujone** (WALLACH), A., i, 802.

Benzylidene-*o*-toluidine, 2:4-*di*nitro- (SACHS and KEMPF), A., i, 682.

Benzylidene-*p*-toluidine, isomeric additive compounds of, with deoxybenzoin and with dibenzyl ketone (FRANCIS), T., 441; P., **1902**, 57.

*op-di*nitro- (FRIEDLÄNDER and COHN), A., i, 791.

Benzylidene-*p*-urazine, *m*-nitro- (PURGOTTI and VIGANÒ), A., i, 322.

2-Benzylindazole and 3-chloro- (FISCHER and BLOCHMANN), A., i, 646.

11-Benzylindophenazine (BURACZEWSKI and MARCHLEWSKI), A., i, 121.

Benzyl *p*-methoxycinnamenyl ketone, and its bromo-derivatives, and the action of hydroxylamine on (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.

Benzylmethylacetic acid, optically active (LAPWORTH and LENTON), P., **1902**, 35.

resolution of, into its optical isomerides (KIPPING), P., **1902**, 33.

Benzyl *p*-methylcinnamenyl ketone, and the action of bromine and of hydroxylamine on (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.

Benzyl 3:4-methylenedioxycinnamenyl ketone and its dibromide, and the action of hydroxylamine on (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.

α-Benzylmethyl ethyl ketone and its oxime and phenylhydrazone (HARRIES and MÜLLER), A., i, 296.

Benzylmethyl*cyclo*hexanone, and its oxime (TÉTRY), A., i, 470.

Benzyl methyl ketone, condensation of, with anisaldehyde, benzaldehyde, piperonal, and *p*-tolualdehyde (GOLDSCHMIEDT and KRCZMAŘ), A., i, 40.

Benzyl methyl, ethyl, and propyl ketones, preparation of (LUDLAM), T., 1186; P., **1902**, 132.

isomeric additive products of, with benzylideneaniline (FRANCIS and LUDLAM), T., 956; P., **1902**, 132.

Benzyl-α-naphthylamine, 2:4-*di*nitro- (COHN and FRIEDLÄNDER), A., i, 376.

Benzyl-*p*-nitroaniline, 5-nitro-2-amino-, and its acetyl derivatives (MEYER and STILLICH), A., i, 319.

Benzyl phenylethyl ketone and its oxime (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.

Benzylphthalamic acid, *m*- and *p*-cyano- (EHRLICH), A., i, 25.

Benzylpiperidines, 2- and 4-, and their salts (TSCHITSCHIBABIN), A., i, 826.

1-Benzylpiperidinium iodide ethyl acetate (WEDEKIND), A., i, 233.

Benzyl *n*-propyl ketone and its semicarbazone (BLAISE), A., i, 164.

Benzylpyridines, 2- and 4-, reduction products of (TSCHITSCHIBABIN), A., i, 826.
Benzyl stilbyl ketone (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.
β-Benzylsulphone-β-methyl-β-phenylethyl and **β-Benzylsulphone-β-phenylethyl phenyl ketones** (POSNER), A., i, 297.
4-Benzyltetrahydropyridine and its salts (TSCHITSCHIBABIN), A., i, 826.
1-Benzyltetrahydroquinoline (WEDEKIND), A., i, 234.
2-Benzyltetrahydro*iso*quinoline, and its salts, and compound with ethyl iodoacetate (WEDEKIND and OECHSLEN), A., i, 118.
5-Benzylthioacridol and its salts (EDINGER and ARNOLD), A., i, 181.
Benzyl-*o*-toluidine, 4-amino- and 4-nitro- (ULLMANN, ROZENBAND, MÜHLHAUSER, and GRETHER), A., i, 242.
Benzyl-*p*-toluidine, 2:4-*di*nitro- (COHN and FRIEDLÄNDER), A., i, 376.
***p*-Benzyltolyl** bromide, thiocyanate and thiocarbamides (WHEELER and JAMIESON), A., i, 762.
7-Benzyl-1:3:8-trimethylxanthine (BOEHRINGER & SÖHNE), A., i, 504.
Berberidic acid, and its oxidation products (DOBBIE and LAUDER), T., 157; P., **1901**, 255.
Berberine, constitution of, **Berberinium hydroxide**, and **Berberinaldehyde** (GADAMER), A., i, 555.
Berberine, Gaze's (GORDIN and MERRELL), A., i, 172.
relation of, to canadine (GADAMER), A., i, 173.
relation of, to corydaline, and its oxidation product (DOBBIE and LAUDER), T., 145, 157; P., **1901**, 252, 255.
occurrence and detection of, in plants (GORDIN), A., ii, 368.
estimation of (GORDIN), A., ii, 235.
Berberonic acid (DOBBIE and LAUDER, T., 159; P., **1901**, 255.
Bergaptin from bergamot oil (v. SODEN and ROJAHN), A., i, 44.
Beryl from Bosnia (KOCH), A., ii, 568.
from the Uralian Emerald Mines (ZEMJATSCHENSKY), A., ii, 29.
Beryllium, quantitative spectra of (HARTLEY), A., ii, 237.
compounds with acyl radicles (LACOMBE), A., i, 418.
chloride, compound of, with iodine trichloride (WEINLAND and SCHLEGELMILCH), A., ii, 315.
thiosulphate (FAKTOR), A., ii, 25.
separation of (WYROUBOFF), A., ii, 605.
Betaine and its salts (WILLSTÄTTER), A., i, 267.
preparation of (STANĚK), A., i, 427.
aurichloride (WILLSTÄTTER), A., i, 267, 661; (FISCHER), A., i, 428.
ε-Betaine, $C_{13}H_{27}O_2N$, and its isomeride, from aminodecoic acids (WALLACH, KÖSCH, and FRESENIUS), A., i, 725.
Betaines (WILLSTÄTTER), A., i, 266.
Beverages, fermented, estimation of uncombined sulphur dioxide in (MATHIEU and BILLON), A., ii, 582.
Bignonia Catalpa, acids of (PIUTTI and COMANDUCCI), A., ii, 523.
Bile and the digestion of proteids (ROSENBERG), A., ii, 216.
effect of injection of micro-organisms on the sterility of (CARMICHAEL), A., ii, 678.
rôle of the, in saponification (PFLÜGER), A., ii, 412.
of the Isabella bear (v. ZUMBUSCH), A., ii, 573.
human (BRAND), A., ii, 572; (TSCHERMAK), A., ii, 678.
Bile acids, circulation of (CROFTAN), A., ii, 573.
pigments (KÜSTER), A., i, 388.
secretion and lymph formation (ELLINGER), A., ii, 614.
Bilirubin and **Biliverdin**, spectrum of (BIER and MARCHLEWSKI), A., i, 636.
Biltong (HALLIBURTON), A., ii, 341.
Bisazoxyacetic acid, preparation of (SILBERRAD), T., 601; P., **1902**, 44.
Bisdiazoacetamide (SILBERRAD), T., 604; P., **1902**, 44.
Bisdiazoacetic acid, preparation of (SILBERRAD), T., 602; P., **1902**, 44.
Bisdinaphthaxanthoneamine (FOSSE), A., i, 51.
Bisdinaphthaxanthoxonium chloride, and methyl and ethyl ethers, and **Bisdinaphthaxanthylene** (WERNER and GUBSER), A., i, 689.
Bisdinaphthaxanthylsulphonic acid, potassium and sodium salts (WERNER and GUBSER), A., i, 689.
Bis-1-methylbenzoxazole (DIELS and BIBERGEIL), A., i, 219.
Bismuth, radioactive (MARCKWALD), A., ii, 508.
Bismuth alloys with tellurium (GUTBIER), A., ii, 558.
Bismuth salts, double, with the rare earths, isomorphism of (BODMAN), A., ii, 507.
Bismuth nitrate, action of mannitol on (VANINO and HAUSER), A., i, 8.
oxide, action of, on metallic solutions (ALOY), A., ii, 360.

Bismuth selenide, action of hydrogen on (PÉLABON), A., ii, 253.
sulphates (ALLAN), A., ii, 401.
Bismuth organic compounds:—
compounds from organic acids (PRUNIER), A., i, 76.
chloride, compounds of, with anilines (VANINO and HAUSER), A., i, 308.
iodide, compounds of, with pyridine and quinoline (VANINO and HAUSER), A., i, 308.
thiocyanate, double salts of, with potassium thiocyanate (VANINO and HAUSER), A., i, 14.
Bismuth, detection, estimation, and separation of:—
assay of (WARWICK and KYLE), A., ii, 231.
electrolytic estimation of (BRUNCK), A., ii, 478.
separation of, from tellurium (GUTBIER), A., ii, 558.
Bismuthigallic acid (THIBAULT), A., i, 101.
Bismuthogallic acid (THIBAULT), A., i, 290.
Bisnaphtharonyl, and *tetra*nitro- (RUHEMANN), T., 423; P., **1902**, 46.
Bis-2:4-*di*nitrobenzylidenebenzidine (SACHS and KEMPF), A., i, 682.
Bisnitrosyl compounds and nitroso-compounds, connection between (PILOTY), A., i, 734.
Bisnitrosylbenzyl, reactions of, and by-products obtained in its preparation (BEHRENS and BEHREND), A., i, 752.
Bistetramethylene-sulphone and **sulphide** (WEIGERT), A., i, 11.
Bistoluene-*p*-sulphon-*o*-, **-*m*-**, and **-*p*-phenylenediamides**, and the bis-*o*-nitro-derivatives of the *o*- and *p*-compounds (REVERDIN and CRÉPIEUX), A., i, 238.
"**Bitter-spars**" (EISENHUTH), A., ii, 330.
Bleaching powder, constitution of (v. TIESENHOLT), A., ii, 562; (DITZ), A., ii, 656.
Blödite (*astracanite*), tension of the water of crystallisation of (VAN'T HOFF and O'FARELLY), A., ii, 461.
Blood, viscosity of the (BURTON-OPITZ), A., ii, 410.
influence of altitude on the (ABDERHALDEN), A., ii, 619, 671.
human, bactericidal effects of (WRIGHT and WINDSOR), A., ii, 672.
lipolytic function of the (DOYON and MOREL), A., ii, 411.
disappearance of ethers in, *in vitro* (DOYON and MOREL), A., ii, 571.
Blood, disappearance of ethers normally existing in the (DOYON and MOREL), A., ii, 672.
condition of, in chronic arsenical poisoning (MUIR), A., ii, 37.
action of lecithin on the formed elements of the (STASSANO and BILLON), A., ii, 411.
carbon monoxide in (NICLOUX), A., ii, 215.
influence of amyl nitrite and carbon monoxide on the amount of carbon dioxide in (SAIKI and WAKAYAMA), A., ii, 161.
gases in, at different altitudes during a balloon ascent (TISSOT and HALLION), A., ii, 150.
glycerol and lipase in the (DOYON and MOREL; HANRIOT), A., ii, 672.
non-existence of lipase in (DOYON and MOREL; HANRIOT), A., ii, 571.
hydrogenases of the (POZZI-ESCOT), A., i, 654.
variation of the amount of iodine in (GLEY and BOURCET), A., ii, 619.
sugars of the, and glycolysis (LÉPINE and BOULUD), A., ii, 151.
glycolysis in drawn (PAVY and SIAU), A., ii, 215.
of animals and persons poisoned by phenylhydrazine, green colouring matter from the (LEWIN), A., i, 67; ii, 160.
of aquatic animals, molecular concentration of the (FREDERICQ), A., ii, 94.
of marine animals, coagulation of (BOTTAZZI), A., ii, 410.
of crayfish, osmotic pressure of the (FREDERICQ), A., ii, 151.
of dogs, glycuronic acid in the (LÉPINE and BOULUD), A., ii, 619.
of dogs and rabbits, action of viper venom on the (PHISALIX), A., ii, 672.
of fishes, coagulation of the (RODIER), A., ii, 215.
of geese, ammonia and lactic acid in the (KOWALEWSKI and SALASKIN), A., ii, 619.
of the Hippocampus (SABRAZÈS and MURATET), A., ii, 215.
of newly born infants, iron in the (NICLOUX and VAN VYVE), A., ii, 618.
analysis of, in relation to metabolism (ASCOLI), A., ii, 33.
forensic detection of (ZIEMKE), A., ii, 296.
estimation of the alkalinity of the (A. and L. LUMIÈRE and BARBIER), A., i, 116.

Blood, estimation of oxygen and carbon dioxide in (BARCROFT and HALDANE), A., ii, 424.
estimation of sugars in (LÉPINE and BOULUD), A., ii, 434.
Blood-clotting and autolysis (CONRADI), A., ii, 35.
Blood colouring matters, detection of, in urine (ROSSEL), A., ii, 296.
Blood constituents, effects of intravascular injection of hypertonic salt solutions on (VAN LEER), A., ii, 411.
Blood corpuscles and the spleen (NOËL-PATON), A., ii, 410.
red, colour reactions of, in diabetes (LE GOFF), A., ii, 544.
Blood-platelets (KEMP and STANLEY), A., ii, 271.
number of, at high altitudes (KEMP), A., ii, 271.
Blood or **red rain**. See Water.
Blood serum, electrical resistance, index of refraction, and rotatory power of (DONGIER and LESAGE), A., ii, 411.
Blood spots, use of serum precipitates for the detection of, in forensic medicine (OGIER and HERSCHER), A., ii, 635.
Body-juices, human, lævulose in (NEUBERG and STRAUSS), A., ii, 676.
Boiler water, removal of calcium sulphate from, by barium aluminate (ARTH), A., ii, 399.
Boiling point of benzene, molecular rise of, at different temperatures (INNES), T., 683; P., **1902**, 26.
of cadmium, selenium, and zinc (BERTHELOT), A., ii, 378.
of liquids from observed to normal pressure, correction of the (YOUNG), T., 777; P., **1902**, 108.
of mixed liquids (YOUNG and FORTEY), P., **1902**, 216; (YOUNG), P., **1902**, 218.
and vapour pressures of mixed liquids (YOUNG), T., 768; P., **1902**, 107.
determination of (CARVETH), A., ii, 600.
of solutions, simple form of Landsberger's apparatus for determining the (LUDLAM), T., 1193; P., **1902**, 180.
Boiling point curve and vapour composition (EBERSOLE), A., ii, 196.
of the system, hydrazine + water (DE BRUYN and DITO), A., ii, 644.
Boletol (BERTRAND), A., ii, 166.
extraction of (BERTRAND), A., i, 220.
Bone, influence of lecithin on the development of (DESGREZ and ZAKY), A., ii, 465.
Bone, albumoid of (HAWK and GIES), A., i, 408; ii, 518.
amount of fluorine in (JODLBAUER and BRANDL), A., ii, 34.
Bone meal phosphoric acid. See Agricultural Chemistry.
Borax. See Sodium biborate.
Boric acid. See under Boron.
Borneol, magnetic rotation and refraction of (PERKIN), T., 309; P., **1902**, 29.
l-**Borneol** from the oil of *Asarum canadense* (POWER and LEES), T., 63; P., **1901**, 210.
esters of, variation in the rotatory power of (MINGUIN and DE BOLLEMONT), A., i, 383.
Borneols, and their acyl derivatives, crystallography of (MINGUIN), A. i, 684.
Borneolglycuronic acid (FROMM and CLEMENS), A., i, 341; (BONANNI), A., ii, 160.
Bornite as a furnace product (WINCHELL), A., ii, 146.
*iso***Bornyl chloride**, formula of (SEMMLER), A., i, 385.
Bornylxanthamides, *d*-, *l*-, and 2- (TSCHUGAEFF), A., i, 630.
Boron, supposed conversion of, into silica (FITTICA; COUNCLER), A., ii, 70.
Borides, metallic, new (TUCKER and MOODY), T., 14; P., **1901**, 129.
Boron nitride (MOESER and EIDMANN), A., ii, 206.
Boric acid, occurrence of, in fruits grown in southern climes (v. LIPPMANN), A., ii, 523.
supposed reduction of, to silicic acid (FITTICA; COUNCLER), A., ii, 70.
influence of, on the rotation of lactic acid and its potassium salt (HENDERSON and PRENTICE), T., 662; P., **1902**, 88.
physiological action of (ROST; RUBNER; NEUMANN; HEFFTER; POLENSKE), A., ii, 620.
excretion of, in man (SONNTAG), A., ii, 678.
estimation of (FARNSTEINER), A., ii, 225; (HEBEBRAND), A., ii, 354; (JONES), A., ii, 630.
estimation of, gravimetrically (PARTHEIL and ROSE), A., ii, 48.
estimation of, spectroscopically (MURARO), A., ii, 355.
rapid estimation of, in butter (RICHMOND and HARRISON), A., ii, 530.
estimation of, in margarine (BEYTHIEN), A., ii, 696.
Perboric acid, derivatives of (PETRENKO), A., ii, 317.

Boron:—
Borotungstic acid, salts, density, refractive and dispersive powers of solutions of (KAHLBAUM, ROTH, and SIEDLER), A., ii, 260.
Brain, new proteid from the (ULPIANI and LELLI), A., ii, 573.
cerebrin, kephalin, and lecithin from (KOCH), A., ii, 676.
horse's, educts from (BETHE), A., ii, 676.
Brandy, artificial, choline as a criterion for (STRUVE), A., ii, 636.
residues. See Agricultural Chemistry.
Brazilein, preparation of, and action of hydroxylamine on (SCHALL), A., i, 636.
constitution of (BOLLINA, v. KOSTANECKI, and TAMBOR), A., i, 482.
and its triacetyl derivative, hydrochloride and sulphate (HERZIG and POLLAK), A., i, 483.
Brazilic acid and its salts, oxime, and semicarbazone (PERKIN), T., 226; P., **1899**, 28; **1900**, 106; **1901**, 258.
Brazilin (v. KOSTANECKI and LAMPE), A., i, 481; (BOLLINA, v. KOSTANECKI, and TAMBOR), A., i, 482; (HERZIG and POLLAK), A., i, 482; (v. KOSTANECKI and PAUL), A., i, 686.
constitution of (PERKIN), T., 221, 1008, 1057; (GILBODY and PERKIN), T., 1040; P., **1899**, 27, 75, 241; **1900**, 107; **1901**, 257; **1902**, 147.
degradation of (PERKIN), P., **1902**, 147; A., i, 815; (v. KOSTANECKI and PAUL), A., i, 686.
Brazilinic acid and its salts, methyl ester, phenylhydrazone, hydrate and tetrabromo-derivative (PERKIN), T., 1030.
Bread, transformation of new, into old (LINDET), A., i, 427.
decomposition of, by micro-organisms (KÖNIG, SPIEKERMANN, and TILLMANS), A., ii, 686.
estimation of fat in (BERNTROP), A., ii, 366.
Brewers' grains. See Agricultural Chemistry.
Brewing materials, detection and estimation of small quantities of arsenic in (REPORT of JOINT COMMITTEE), A., ii, 288.
Bright's disease, nitrogenous metabolism in a case of (BUTLER and FRENCH), A., ii, 466.
Bromal campholates, crystallography of (MINGUIN), A., i, 685.
glycolate and **Bromalglycol** acetate (GABUTTI), A., i, 261.
Bromalchloralcarbamide (KALLE & Co.), A., i, 429.
Bromination and nitration in the aromatic series (BLANKSMA), A., i, 600.
Bromine, velocity of reaction of, on ethyl alcohol (BUGARSZKY), A., ii, 9.
behaviour of, to high pressure electric discharges (KELLNER), A., ii, 649.
action of, on metallic silver in the light and in the dark (v. CORDIER), A., ii, 18.
substitution of, by chlorine, in the organism (HONDO), A., ii, 464.
Bromine compounds with aluminium bromide and carbon disulphide (PLOTNIKOFF), A., ii, 21.
Hydrobromic acid (*hydrogen bromide*), action of Caro's reagent on (WEDEKIND), A., ii, 498.
Hypobromites and hypochlorites, stability of (GRAEBE), A., ii, 556.
Bromine and iodine, detection of, in presence of thiosulphates (LEUBA), A., ii, 691.
Bromoform, electrolytic preparation of (COUGHLIN), A., i, 197.
Brucidine (TAFEL and NAUMANN), A., i, 53.
Brucine, supposed reaction of, with nitrous and nitric acids (LUNGE), A., ii, 288, 427; (WINKLER), A., ii, 353.
electrolytic reduction of (TAFEL and NAUMANN), A., i, 53.
estimation of, in nux vomica (DOWZARD), P., **1902**, 220.
separation of, from strychnine (LYONS), A., ii, 710.
Brunsvigite from Radauthal (FROMME), A., ii, 512.
Bryoidin (TSCHIRCH and CREMER), A., i, 812.
Bufonin, Bufotalin, and **Bufotenin** (PHISALIX and BERTRAND; BERTRAND), A., ii, 576.
Bufonin and its chloride and **Bufotalin**, and their physiological action (FAUST), A., i, 446.
Bullocks. See Agricultural Chemistry.
n-**Butaldehyde**, condensation of, with ethyl cyanoacetate (GUARESCHI), A., i, 820.
*iso***Butaldehyde**, condensation of, with cinnamaldehyde (MICHEL and SPITZAUER), A., i, 292.
chloro-, and its oxime (IPATIEFF and SOLONINA), A., i, 2.
Butane, β-bromo-β-nitroso-, constitution of (PILOTY and STOCK), A., i, 735.
*aa'-di*cyano-. See Adiponitrile.
*iso***Butane**, β-thiocyano- (WHEELER and JOHNSON), A., i, 760.

Butanedicarboxylic acids. See :—
Adipic acids.
Dimethylsuccinic acid.
Butanepentacarboxylic acid, ethyl ester (GUTHZEIT and JAHN), A., i, 659; (GUTHZEIT and ENGELMANN), A., i, 743.
*iso***Butanesulphonic chloride,** amide, and anilide (DUGUET), A., i, 428.
Butane-αβδ-tri- and **-αββδ-tetra-carboxylic acids,** ethyl esters (GUTHZEIT and ENGELMANN), A., i, 742.
Butanetricarboxylic acids. See also α-Methyltricarballylic acids.
Butanolamines. See Butyl alcohols, amino-.
Butenelactone (FICHTER and SONNEBORN), A., i, 256.
Butenylmesitylene and its nitrosochloride (KLAGES), A., i, 613.
Butenylphenetole (KLAGES), A., i, 610.
p-**Butenyl-***m*-**xylene** and its nitrosochloride (KLAGES), A., i, 612.
4-*iso***Butoxy-1-α-hydroxypropylbenzene** and its phenylurethane (KLAGES), A., i, 610.
Butter, rancidity of (JENSEN), A., ii, 468.
analysis of (KICKTON), A., ii, 586.
analysis of, and the relation between the various constants of the same (BEHREND and WOLFS), A., ii, 708.
detection of fluorides in (O. and C. W. HEHNER), A., ii, 529.
detection of margarine in (ANNATÒ), A., ii, 113; (BREMER), A., ii, 113, 114; (REINSCH), A., ii, 114; SOLTSIEN, A., ii, 183.
detection of sesamé oil in (ANNATÒ; SOLTSIEN), A., ii, 113; (BREMER), A., ii, 113, 114; (REINSCH; RANWEZ), A., ii, 114.
estimation of the soluble acids in (VANDAM), A., ii, 541.
rapid estimation of boric acid in (RICHMOND and HARRISON), A., ii, 530.
estimation of the unsaponifiable substances in the fat of (KIRSTEN), A., ii, 708.
See also Agricultural Chemistry.
"**Butter oil**" (UTZ), A., ii, 366.
Butyl alcohol, β-amino- (STIÉNON), A., i, 265.
n-**Butyl alcohol** in fusel oil from grain (EMMERLING), A., i, 253.
action of, on its sodium derivative (GUERBET), A., i, 130.
*iso***Butyl alcohol,** properties of mixtures of, with benzene, and with benzene and water (YOUNG and FORTEY), T., 748; P., **1902**, 105.
*iso***Butyl alcohol,** properties of mixtures of, with water (YOUNG and FORTEY), T., 732; P., **1902**, 105.
*sec.***Butyl alcohol** and its derivatives (NORRIS and GREEN), A., i, 4.
α-amino-, and its dibenzoyl and thiocarbamide derivatives, and oxalate and picrate (TORDOIR), A., i, 265.
*tert.***Butyl alcohol,** properties of mixtures of, with benzene, and with benzene and water (YOUNG and FORTEY), T., 746; P., **1902**, 105.
properties of mixtures of, with water (YOUNG and FORTEY), T., 729; P., **1902**, 105.
*tert.***Butyl alcohol,** *tri*chloro- (GUÉDRAS), A., i, 131.
α-*iso***Butyl-β-***iso***amylacetic acid.** See Undecoic acid.
*iso***Butylbenzene,** *p*-iodo- (KLAGES and STORP), A., i, 670.
*tert.***Butylbenzene,** *p*-iodo-, containing polyvalent iodine, and its derivatives and salts (WILLGERODT and RAMPACHER), A., i, 18.
ψ-**Butylene chlorohydrin** (KRASSUSKY), A., i, 425.
*iso***Butylene chlorohydrin,** structure of (KRASSUSKY), A., i, 8.
nitrosate and its cyanide (IPATIEFF and SOLONINA), A., i, 2.
Butylenepentacarboxylic acid, ethyl ester (GUTHZEIT and JAHN), A., i, 659; (GUTHZEIT and ENGELMANN), A., i, 743.
Butylenetricarboxylic acid (GUTHZEIT and ENGELMANN), A., i, 743.
α-**Butylene-αγδ-tri-**, **-αγγδ-tetra-** and **-ααγγδδ-hexa-carboxylic acids,** ethyl esters (GUTHZEIT and ENGELMANN), A., i, 742.
Butylenetetracarboxylic acid. See also Methylcarboxyaconitic acid.
Butyl-ψ-nitrole, constitution of (PILOTY and STOCK), A., i, 735.
*tert.***Butylphenylarsenic** compounds (MICHAELIS and TRAEGEL), A., i, 416.
α-*iso***Butyl-β-***iso***propylbutyric acid.** See Undecoic acid.
α-*iso***Butyl-β-***iso***propylbutyrolactone** (NEF), A., i, 6.
α-*iso***Butyl-β-***iso***propyl-γ-hydroxybutyric acid.** See γ-Hydroxyundecoic acid.
α-*iso***Butyl-β-***iso***propyltrimethylene glycol.** See αγ-Decylene glycol.
3-*iso***Butylpyrazolone** (BONGERT), A., i, 73.
*iso***Butylpyruvic acid,** ethyl ester, and its oxime (BOUVEAULT and LOCQUIN), A., i, 704.
Butyracetal, β-chloro- (WOHL and FRANK), A., i, 532.

*iso***Butyramide**, α-amino-, hydrobromide (SCHIFF), A., i, 250.
Butyranilide, β-chloro- (MICHAEL, GRAVES, and GARNER), A., i, 70.
α-thio- (BECKURTS and FRERICHS), A., i, 765.
*iso***Butyranilide**, α- and β-chloro- (MICHAEL, GRAVES, and GARNER), A., i, 70.
Butyric acid, condensation product of (ALBO), A., i, 10, 200.
chloromethyl and methylene esters (DESCUDÉ), A., i, 738.
Butyric acid, halogen derivatives of (CLOVER), A., i, 200.
βγ-*di*bromo- (FICHTER and SONNEBORN), A., i, 256.
*iso***Butyric acid**, *iso*bornyl ester (KONDAKOFF), A., i, 478.
chloromethyl and methylene esters (DESCUDÉ), A., i, 738.
*iso*propyl ester, vapour pressures and specific volumes of (YOUNG and FORTEY), T., 783; P., **1902**, 108.
Butyric chloride, αγ-*di*chloro- (MICHAEL, GRAVES, and GARNER), A., i, 69.
Butyric fermentation. See Fermentation.
Butyrylacetoacetic acid, isomeric esters and copper salt (BONGERT), A., i, 73.
Butyrylbutyric acid, amyl ester (MOUREU and DELANGE), A., i, 164.
*iso***Butyryl-***o***-flavaniline** (CAMPS), A., i, 178.
Butyrylmesitylene (KLAGES), A., i, 613.
3-*iso***Butyryl-1-methyl***cyclo***pentanone-4**, and its methyl derivative (LESER), A., i, 262.
Butyrylphenetole (KLAGES), A., i, 610.
Butyrylphenylacetylene (MOUREU and DELANGE), A., i, 164.
Butyrylpyruvic acids, *n*- and *iso*-, ethyl esters and salts (LAPWORTH and HANN), T., 1485; P., **1902**, 141.
Bytownite from Monhegan Island, Maine (LORD), A., ii, 463.

C.

Cachou, tincture of, detection of (BOURQUELOT), A., ii, 483.
Cacodylic acid and its salts and compounds (SIBONI), A., i, 432.
excretion of, and its detection in cases of poisoning (VITALI), A., ii, 161.
Cadinene (CATHELINEAU and HAUSSER), A., i, 44.
Cadmium, boiling point of (BERTHELOT), A., ii, 378.
Cadmium alloys with barium and calcium (GAUTIER), A., ii, 397.
Cadmium alloys with magnesium (BOUDOUARD), A., ii, 501.
with strontium (GAUTIER), A., ii, 138.
Cadmium salts, compounds of, with cupric oxide (MAILHE), A., ii, 140, 262.
compounds of, with hydroxylamine (ADAMS), A., ii, 655.
Cadmium bromide and chloride, precipitation of, by sulphuric acid (VIARD), A., ii, 606.
*sub*oxides (TANATAR and LEVIN), A., ii, 658.
ammonium phosphate, estimation of, volumetrically (DAKIN), A., ii, 628.
sulphate, compounds of, with hydrogen chloride (BASKERVILLE and HARRIS), A., ii, 209.
Cadmium organic compounds:—
potassium ferrocyanides (MILLER), A., i, 429.
thiocyanate and its compounds with ammonia, ammonium, barium, potassium, rubidium, and sodium (GROSSMANN), A., i, 663.
Cadmium, estimation of (MILLER and PAGE), A., ii, 49; (DAKIN), A., ii, 628.
Cæsium, potassium, and rubidium, spectra of (RAMAGE), A., ii, 637.
Cæsium ruthenichlorides and oxyruthenichlorides (HOWE), A., ii, 86.
phosphates (V. BERG), A., ii, 137.
hydrogen selenate and tellurate (NORRIS and KINGMAN), A., ii, 15.
thallic sulphates (LOCKE), A., ii, 397.
vanadate (CHABRIÉ), A., ii, 561.
Cæsium, estimation of, as the hydrogen sulphate (BROWNING), A., ii, 175.
Caffeine, crystallisation of (KLEY), A., ii, 115.
"Caffeine iodide" (FAUCON), A., i, 485.
Caffetannic acid in coffee beans (GRAF), A., ii, 40.
Calamene and its bromo-derivative and hydrochloride, and **Calameonic acid** and its salts (THOMS and BECKSTROEM), A., i, 810.
Calameon and its sodium derivative and hydrochloride (THOMS and BECKSTROEM), A., i, 809, 810.
Calamus oil (THOMS and BECKSTROEM), A., i, 809, 810.
Calaverite from Cripple Creek, Colorado (PENFIELD and FORD), A., ii, 28.
from Western Australia (HOLROYD; SIMPSON), A., ii, 509.
crystalline development of (SMITH and PRIOR), A., ii, 404.
See also Tellurides.
Calcite crystals from Gräsberg, Sweden (WEIBULL), A., ii, 405.

Calcium, atomic weight of (HINRICHSEN), A., ii, 137, 501; (RICHARDS), A., ii, 394.
in the dog (ALOY), A., ii, 618.
metabolism of, in Herbivora (TANGL), A., ii, 272.
Calcium alloys with cadmium (GAUTIER), A., ii, 397.
Calcium compounds. See Agricultural Chemistry.
Calcium salts, thermochemical action of ammoniacal cupric oxide on (BOUZAT), A., ii, 550.
Calcium carbide, formation of (ROTHMUND), A., ii, 454.
reactions in the formation of (GIN), A., ii, 605.
new reactions of (SANDMAN), A., i, 581.
apparatus for the analysis of (FORMENTI), A., ii, 583.
See also Agricultural Chemistry.
carbonate, solubility of, in aqueous solutions of certain electrolytes in equilibrium with atmospheric air (CAMERON and SEIDELL), A., ii, 320.
haloids, temperature of maximum density and electrical conductivity of solutions of (DE COPPET and MULLER), A., ii, 488.
chloride, compound of, with iodine trichloride (WEINLAND and SCHLEGELMILCH), A., ii, 315.
*tetra*iodide (MEYER), A., ii, 319.
hydride and nitride, formation and stability of (GAUTIER), A., ii, 453.
nitrate, spectrum of (HARTLEY), T., 569; P., **1902**, 68.
oxide (*lime*), properties of fused (MOISSAN), A., ii, 257.
amount of, in phanerogamic parasites (ASŌ), A., ii, 684.
estimation of free and anhydrous, in cements (MAYNARD), A., ii, 697.
See also Agricultural Chemistry.
phosphate. See Agricultural Chemistry.
ammonium phosphate (LASNE), A., ii, 320.
carbophosphate (BARILLÉ), A., ii, 258.
hydrogen phosphate, solubility of, in water (RINDELL), A., ii, 208.
hypophosphite, behaviour of, in the organism (MASSOL and GAMEL), A., ii, 37; (PANZER), A., ii, 225.
silicide, $CaSi_2$ (MOISSAN and DILTHEY), A., ii, 320.
sulphate, removal of, from boiler water, by barium aluminate (ARTH), A., ii, 399.
See also Gypsum.
Calcium, estimation of:—
estimation of, as oxalate (PAGIREFF; TÄUBNER), A., ii, 356.
estimation of, in water (GRITTNER), A., ii, 696.
Calcium-ammonium, decomposition of, by ammonium chloride and action of hydrogen sulphide on (MOISSAN), A., ii, 72.
Calculi, biliary, composition of (FUNARO), A., ii, 276.
intestinal (PATEIN and BROUANT), A., ii, 519.
Caledonite from Chili (BERG), A., ii, 331.
Calorific value of fuels, determination of the (ANTONY and DI NOLA), A., ii, 4.
Calorimeter, peroxide (PARR), A., ii, 432.
Camphane, 1:1-bromonitro-, action of phenylhydrazine on (FORSTER), T., 870; P., **1902**, 116.
comparison of, with bromonitrocamphor (FORSTER), T., 865; P., **1902**, 116.
Camphanylcarbinol (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 478.
Camphenaldehyde (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 102.
Camphene, constitution of (KONDAKOFF), A., i, 478; (DODGE), A., i, 807.
magnetic rotation of (PERKIN), T., 316; P., **1902**, 29.
action of mercuric acetate on (BALBIANO, PAOLINI, and LUZZI), A., i, 809.
Camphene, bromo- and chloro-, dibromide and dichloride, formulæ of (SEMMLER), A., i, 385.
Camphenolglycuronic acid (FROMM and HILDEBRANDT), A., ii, 159.
Camphenylcarbinol. See Dehydrocamphylcarbinol.
Camphidine and **Camphidone** (BOEHRINGER & SÖHNE), A., i, 385.
Camphidine and ***α***- and ***β*-Camphidones** and their derivatives (TAFEL and ECKSTEIN), A., i, 43.
Campholenic acid and nitro-, constitution of (BÉHAL), A., i, 419.
***α*-Campholenic acid** (FORSTER), T., 271; P., **1902**, 26.
Campholenolactone (BÉHAL), A., i, 419.
***i*-*α*-Campholytic acid** (NOYES and PATTERSON), A., i, 590.
Camphonic acid, constitution, reduction, and degradation of (LAPWORTH and LENTON), T., 18; P., **1901**, 148.
Camphononic acid, constitution of (LAPWORTH and LENTON), T., 18; P., **1901**, 148.

Camphor and its derivatives, magnetic rotation and refraction of (PERKIN), T., 292; P., **1902**, 28.
optical inversion of, and the mechanism of hetero- and meso-sulphonation, of homo- and hetero-bromination and dehydration of (ARMSTRONG and LOWRY), T., 1469.
migration of the methyl group in the molecule of (BLAISE and BLANC), A., i, 299.
sulphonation of (ARMSTRONG and LOWRY), T., 1441, 1462, 1469; P., **1901**, 183, 217, 244.
sodium, action of cyanogen chloride on (DUVAL), A., i, 106.
in the organism (FROMM and HILDEBRANDT), A., ii, 159; (FROMM and CLEMENS), A., ii, 341.
Camphor, β-bromo- (FORSTER), P., **1901**, 245.
β-bromo- and β-chloro-, and their oximes and benzoyl derivatives (FORSTER), T., 269; P., **1902**, 26.
β-bromo-, αα′β-*tri*bromo-, and αβ-*di*bromo-α′-nitro- (ARMSTRONG and LOWRY), T., 1464; P., **1901**, 217, 244.
α-*di*bromo-, constitution of the acids from (LAPWORTH and LENTON), T., 17; P., **1901**, 148.
αα-bromonitro-, action of alcoholic silver nitrate, and of phenylhydrazine on (FORSTER), T., 867; P., **1902**, 116.
comparison of, with bromonitrocamphane (FORSTER), T., 865; P., **1902**, 116.
β-chloro-α-bromo- (FORSTER), T., 273; P., **1902**, 26.
*iso*nitroso-, isomeric benzoyl derivatives from (FORSTER), P., **1902**, 238.
*iso***Camphor**, constitution of, and its amine and carbamide (SPICA), A., i, 43.
β-Camphoramidic acid (NOYES and PATTERSON), A., i, 590.
β-Camphoranic acid (*β-hydroxycamphoronic acid*), constitution of (LAPWORTH and LENTON), T., 21; P., **1901**, 148.
Camphor compounds, enantiomorphism of (MINGUIN), A., i, 798.
Camphorenic acid, bromo-, constitution of (LAPWORTH and LENTON), T., 18; P., **1901**, 148.
Camphoric acid, constitution of (NOYES and PATTERSON), A., i, 590.
conductivity of esters of (WEGSCHEIDER), A., i, 618.
Camphoric acid, β-bromo-, and its methyl ester and anhydride (ARMSTRONG and LOWRY), T., 1467; P., **1901**, 217, 244.
Camphorimide, electrolytic reduction of (TAFEL and ECKSTEIN), A., i, 43.
Camphoronic acid, bromination of (LAPWORTH and LENTON), T., 25.
*iso***Camphoronic acid** (ARMSTRONG and LOWRY), T., 1468.
synthesis of (PERKIN), T., 246; P., **1900**, 214.
Camphoroxime, α-amino-, and its salts, dibenzoyl and benzylidene derivatives, and carbamide (LAPWORTH and HARVEY), T., 549; P., **1902**, 70.
Camphoroximephenylcarbamate, phenylcarbamide of (LAPWORTH and HARVEY), T., 554; P., **1902**, 71.
Camphorphorone, formula of (SEMMLER), A., i, 385.
Camphorquinonephenylhydrazone (FORSTER), T., 869.
mutarotation and desmotropic forms of (LAPWORTH and HANN), T., 1508; P., **1902**, 143, 146.
Camphor ring, attempted synthesis of the (ZELINSKY), A., i, 106.
Camphorsulphonanhydramide and its bromo- and chloro-derivatives (ARMSTRONG and LOWRY), T., 1448; P., **1901**, 183.
Camphorsulphonic acid (Reychler), constitution of (ARMSTRONG and LOWRY), T., 1469.
bromide, chloride, amide, anhydramide, anilide, *p*-bromoanilide, and piperidides (ARMSTRONG and LOWRY), T., 1447; P., **1901**, 182.
Camphorsulphonic acid, α-bromo- and α-chloro-, and their salts, bromides, chlorides, and amides, and anilide and piperidide of the bromo-acid (ARMSTRONG and LOWRY), T., 1451; P., **1901**, 182.
Camphyl glycols (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 299.
Canadine, relation of, to berberine (GADAMER), A. i, 173.
Canarin (GOLDBERG), A., i, 137.
Cane sugar. See Sucrose.
Caoutchouc (*indiarubber*) (WEBER), A., i, 552.
chemistry of (HARRIES), A., i, 811.
crude, action of, strong nitric acid on (DITTMAR), A., i, 386; (HARRIES), A., i, 812.
Capillary, electrical. See Electrocapillary.
Capillary constants of sugar solutions (DÉMICHEL), A., ii, 703.
Carbamide, preparation of, by the oxidation of albumin (JOLLES), A., i, 331.
formation of, from nitrogenous substances (PLOT), A., i, 138.

Carbamide, formation of, by the oxidation of physiological nitrogenous substances (JOLLES), A., i, 86; (FALTA), A., i, 282.
new properties of (RAMSDEN), A., i, 596.
and its derivatives, crystallography of (MEZ), A., i, 86.
influence of, on the vapour pressure of aqueous ammonia solution (PERMAN), T., 484; P., **1901**, 261.
action of, on pyruvic acid (SIMON), A., i, 15.
derivatives of sugars (SCHOORL), A., i, 83.
See also Urea.
Carbamide, thio-. See Thiocarbamide.
α-Carbaminethio-butyranilide, -glycollmethylanilide, and **-lactanilide** (BECKURTS and FRERICHS), A., i, 764.
Carbaminoglycylglycine ethyl ester (FISCHER), A., i, 350.
Carbanilide. See Diphenylcarbamide.
Carbanilophenylazoacetaldoxime, constitution of (VOSWINCKEL), A., i, 844.
Carbazole, *di*nitro- (WIRTH), A., i, 495.
Carbethoxyphenylglycinecarboxylic acid, diethyl ester (VORLÄNDER, MUMME, and WANGERIN), A., i, 454.
αα-Carbethoxyphenylsemicarbazide (WHEELER and BEARDSLEY), A., i, 503.
Carbimides, thio-. See Thiocarbimides.
Carbindigo, preparation and formula of, and **Carbindirubin** (GABRIEL and COLMAN), A., i, 643.
Carbohydrates, synthesis of (WALTHER), A., i, 203, 747.
formed in the fermentation of sucrose by a mucus-forming bacillus (SCHARDINGER), A., ii, 469.
magnetic rotation of some (PERKIN), T., 177; P., **1901**, 256.
drying of, and estimation of their water of crystallisation (SCHULZE), A., ii, 292.
acetylated, velocity of hydrolysis of (KREMANN), A., i, 712.
action of hydrogen peroxide on, in presence of ferrous sulphate (MORRELL and CROFTS), T., 666; P., **1902**, 55.
decomposition of, by enzymes (CLEMM), A., i, 348.
decomposition of, in germinating dates (GRÜSS), A., ii, 522.
formation of higher fatty acids from (MAGNUS-LEVY), A., ii, 614.
influence of, on proteid metabolism (TALLQVIST), A., ii, 273.
absorption of, by the rectum (REACH), A., ii, 413.
Carbohydrates, *rôle* of, in the utilisation of insoluble salts by the organism (VAUDIN), A., ii, 337.
changes in the, in Ascaris (WEINLAND), A., ii, 155.
reserve, of the seeds of *Aucuba japonica* (CHAMPENOIS), A., ii, 166.
of the proteid of seeds of Liliaceæ (DUBAT), A., ii, 99.
in the seeds of *Phellandrium aquaticum* (CHAMPENOIS), A., ii, 282.
of crystallised serum-albumin (LANGSTEIN), A., i, 66.
estimation of, in normal urine by the Schotten-Baumann method of benzoylation (REINBOLD), A., ii, 633.
See also Sugars.
Carbohydrates. See also:—
α-Amylodextrin.
Apiose.
Araban.
Arabinoses.
Arabitol.
Cellobiose (*cellose*).
Cellulose.
Dextrins.
Dextrose.
Erythritol.
β-Ethylgalactoside.
Fructose.
δ-Galactan.
Galactose.
Galactosidodextrose.
Galactosidogalactose.
Gelose.
Gentiobiose.
α-Glucoheptose.
Glucose.
Glucosidegalactose.
Glucosone.
Glycogen.
Granulose.
Hemicelluloses.
Honey dextrin.
β-Hydroxymethylerythrose (*apiose*).
Ketoses.
Lactose.
*iso*Lactose.
Lævulose.
Maltose.
Mannan.
Manneotetrose.
Manninotriose.
Mannitol.
Mannose.
Melibiose.
Methylpentosan.
Methyltetrose.
Methyltriose.
Oxycelluloses.
Pentaerythritol.
Pentanetriolone.

Carbohydrates. See :—
Pentosans.
Pentoses.
Potato-starch (*granulose*).
Raffinose.
Rhamnitol.
Rhamnose.
Starch.
Stachyose.
Sucrose.
Xylan.
Xylose.

Carbon, tervalent (GOMBERG), A., i, 754.
basic properties of (KEHRMANN and WENTZEL), A., i, 89; (WALDEN), A., i, 536.
effect of the presence of hydrogen on the spectrum of (HERBERT), A., ii, 637.
atoms, linking of, in the paraffin series (LOSANITSCH), A., i, 253.
double linking of, and the carbonyl radicle (VORLÄNDER), A., i, 309.
ions (BILLITZER), A., ii, 593.
fusion of (LUDWIG), A., ii, 451.
direct combination of, with chlorine (v. BOLTON), A., ii, 393; (LORENZ), A., ii, 452.
gas, conversion of, into diamond (LUDWIG), A., ii, 70, 451.

Carbon *tetra*chloride, condensation of, with ethyl cyanoacetate and with ethyl malonate (DIMROTH), A., i, 740.

Carbides. See under the various metals.

Carbon *mono-* and *di-***oxides,** action of hydrogen on, in presence of finely-divided metals (SABATIER and SENDERENS), A., i, 333; ii, 317.

Carbon *mon***oxide** (*carbonic oxide*), variation with temperature of the density and surface energy of, and vapour pressure of (BALY and DONNAN), T., 907; P., **1902,** 115.
hydrogen, and *iso*pentane, fractional combustion of (CHARITSCHKOFF), A., ii, 702.
combination of, with chlorine, under the influence of light (DYSON and HARDEN), P., **1902,** 191.
solubility of, in binary organic mixtures (SKIRROW), A., ii, 600.
affinity of hæmoglobin for (HÜFNER), A., ii, 671.
influence of, on the synthesis of phenol-sulphuric acid in the organism (KATSUYAMA), A., ii, 161.
in the blood (NICLOUX), A., ii, 215.
influence of, on the amount of carbon dioxide in arterial blood (SAIKI and WAKAYAMA), A., ii, 161.

Carbon *di***oxide** (*carbonic anhydride*), solid, method of collecting for lecture purposes (DARLING), A., ii, 500.
fermentative origin of (EMERSON), A., ii, 271.
state of, in aqueous solution (WALKER), P., **1902,** 246.
physical peculiarity of solutions of, in liquids (WANKLYN), A., ii, 309.
thermal properties of (KUENEN and ROBSON), A., ii, 595.
compressibility of, at low pressures (BATTELLI), A., ii, 244.
auto-regulation of "energetic" functions by (DUBOIS), A., ii, 573.
action of, on barium borates (JONES), A., ii, 630.
action of, on calcium phosphates (BARILLÉ), A., ii, 258.
influence of, on the action of diastase (MOHR), A., i, 410.
as an excitant of the respiratory centre (RULOT and CUVELIER), A., ii, 150.
action of, on the conservatism of muscular energy (LHOTAK DE LHOTA), A., ii, 675.
influence of amyl nitrite and carbon monoxide on the amount of, in blood (SAIKI and WAKAYAMA), A., ii, 161.
elimination of, in certain metabolic disorders (HALL), A., ii, 679.
decomposition of, by insolated leaves (DEHÉRAIN and DEMOUSSY), A., ii, 624.
influence of, in the air on the form and internal structure of plants (FARMER and CHANDLER), A., ii, 683.
influence of varying amounts of, in the air on the photosynthetic process of leaves and on the mode of growth of plants (BROWN and ESCOMBE), A., ii, 682.
estimation of, in the atmosphere (LETTS and BLAKE), A., ii, 226.
estimation of, in blood (BARCROFT and HALDANE), A., ii, 424.

Carbonates and bicarbonates in aqueous solution, equilibrium between (CAMERON and BRIGGS), A., ii, 64.
action of hydrogen peroxide on (KASANEZKY), A., ii, 317, 500.
method of estimating small quantities of (HALL and RUSSELL), T., 81; P., **1901,** 241.
estimation of, gasometrically (RIEGLER), A., ii, 223.

Carbon sulphide, gaseous, non-existence of (RUSSELL and SMITH), T., 1538; P., **1902,** 197.
*di*sulphide, refraction of solutions in (FORCH), A., ii, **589.**

Carbon *di*sulphide, compounds of, with bromine and aluminium bromide (PLOTNIKOFF), A., ii, 21.
action of, on polyhydric amino-alcohols (MAQUENNE and ROUX), A., i, 694.
Carbon, estimation of:—
estimation of, in presence of osmium (v. KNORRE), A., ii, 427.
estimation of, in steel (BLOUNT), A., ii, 174; (LEFFLER), A., ii, 355.
Carbon compounds, molecular weights of, in concentrated solutions with carbon compounds as solvents (SPEYERS), A., ii, 388.
Carbon-iron systems, chemical equilibrium of (CHARPY and GRENET), A., ii, 209.
Carbonium salts (GOMBERG), A., i, 600.
Carbonyl chloride, action of metallic thiocyanates on (DIXON), P., **1902**, 240.
Carbonyl radicle and the carbon double linking (VORLÄNDER), A., i, 309.
Carbonyl-2:2′-*di*amino-diphenyl and **-4:4′-dimethyldiphenyl** (v. NIEMENTOWSKI), A., i, 21.
Carbonylchloroaldehydes (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 78.
Carbonyldiglycylglycine, and its ethyl esters and amide (FISCHER), A., i, 351.
Carbonyl-8:5′-dihydroxydi-β-naphthylamine-6:7′-disulphonic acid and thio- (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 280.
Carbonyldihydroxydinaphthylaminedisulphonic acids, thio- (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 92.
Carbonyldileucauramine (MÖHLAU and HEINZE), A., i, 244.
Carbonyldi-*m*-nitrophenylcarbamide (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1569.
Carbonyldiphenylglycine, esters (BADISCHE ANILIN- & SODA-FABRIK), A., i, 101.
Carbonyldi-phenyl- and **-*o*-tolyl*di*thiocarbamides** (DIXON), P., **1902**, 241.
Carbonyldi-*o*-tolylcarbamide (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1571.
Carbonyl*di*thiocarbamide, additive products of (DIXON), P., **1902**, 240.
Carbonylthiocarbimido-phenyl-, -phenylbenzyl-, -α-naphthyl-, and **-*p*-tolylthiocarbamides** (DIXON), P., **1902**, 241.
Carbothionium and **Carboxonium** salts (WERNER), A., i, 50; (HEWITT), A., i, 112.
***o*-Carboxyanilino-α-phenylacetic acid,** amide, and nitrile (v. WALTHER and RAETZE), A., i, 467.
4-Carboxybenzeneazo-1:3-diphenylpyrazolone (BÜLOW and HAILER), A., i, 326.
4-Carboxybenzeneazo-3-phenyl-5-*iso*oxazolone (BÜLOW and HAILER), A., i, 326.
Carboxydimethoxybenzoylformic acid and its salts (PERKIN), T., 1022; (GILBODY and PERKIN), T., 1045.
Carboxydimethoxybenzylformic acid (PERKIN), T., 1028.
Carboxydimethoxymandelic acid, lactone of (PERKIN), T., 1026.
2-Carboxy-5:6-dimethoxyphenoxyacetic acid and its silver salt (PERKIN and YATES), T., 241; P., **1900**, 108; (PERKIN), T., 1061.
Carboxyethylthioglycollanilide (BECKURTS and FRERICHS), A., i, 764.
Carboxyglutaric acid (*propanetricarboxylic acid*), ethyl ester, action of halogen substituted esters of fatty acids on (GUTHZEIT and ENGELMANN), A., i, 742.
Carboxyhæmoglobin. See under Hæmoglobin.
2-Carboxy-5-methoxyphenoxyacetic acid (GILBODY and PERKIN), T., 1043; P., **1902**, 148.
Carboxymethoxyphenoxylactic acid (?) (PERKIN), T., 1029; P., **1902**, 148; (GILBODY and PERKIN), T., 1043.
3-Carboxy-2-methylfurfuran-4-acetic acid, salts and esters (FEIST), A., i, 489.
***m*-Carboxyphenylarsenic acid** and its salts (MICHAELIS and EISENLOHR), A., i, 415.
***p*-Carboxyphenylarsenic acid,** nitro- (MICHAELIS and EPPENSTEIN), A., i, 414.
Carboxyphenylazobenzoylacetic acid and its salts and ethyl ester (BÜLOW and HAILER), A., i, 326.
***m*-Carboxytolylarsenic acid** (MICHAELIS and SEEMAN), A., i, 416.
***p*-Carboxytolylarsenic acid** (MICHAELIS and PASEL), A., i, 416.
Carnallite, large crystals of, from Beienrode (BÜCKING), A., ii, 610.
Carolinium, new element associated with thorium (BASKERVILLE), A., ii, 85.
Caro's acid or **reagent,** formula of (PRICE), A., ii, 204.
action of, on alkaloids (SPRINGER), A., i, 485.
action of, on hydrogen bromide, chloride, and fluoride (WEDEKIND), A., ii, 498.
interaction of, with hydroxylamine sulphate (ANGELI and ANGELICO), A., ii, 254.

Caro's acid or **reagent**. See also Persulphuric acid under Sulphur.
Carum Bulbocastanum, sucrose in the tubercles of (HARLAY), A., ii, 220.
Carvene. See *d*-Limonene.
Carvomentholacetic acid and its ethyl ester and silver salt (WALLACH and THÖLKE), A., i, 799.
Casein, coagulation of, by rennet and by lacto-serum (MÜLLER), A., i, 409.
alkaline hydrolysis of (FISCHER), A., i, 640.
action of nitric acid on (HABERMANN and EHRENFELD), A., i, 653.
soluble compounds of, with hydrogen bromide or iodide (CHEMISCHE FABRIK VON HEYDEN), A., i, 409.
derivative containing chlorine and sulphur (PANZER), A., i, 194.
Casein, chlorinated, action of sodium ethoxide on (PANZER), A., i, 332.
Caseinogen and its salts (OSBORNE), A., i, 194.
Caseonic acid, chloro- (PANZER), A., i, 332.
Caseoses, action of papain and rennin on (KURAÉEFF), A., i, 731.
Cassava, sweet, hydrocyanic acid in (CARMODY), A., ii, 100.
roots. See Agricultural Chemistry.
Cat, phloridzin diabetes in the (ARTEAGA), A., ii, 38.
Catalase (LOEW), A., i, 732.
(Loew's), identity of de Rey-Pailhade's philothion with (POZZI-ESCOT), A., i, 513.
Catalysis and **Catalytic action**. See Affinity.
Catechin, formula of (KARNOWSKI and TAMBOR; v. KOSTANECKI and KREMBS), A., i, 637.
and its acetyl derivatives (v. KOSTANECKI and TAMBOR), A., i, 553.
Catechins and their azobenzene, acetyl and benzoyl derivatives from *Acacia* and *Gambier Catechus* (PERKIN and YOSHITAKE), T., 1160; P., **1902**, 139.
Catechol (*pyrocatechol*, 1:2-*dihydroxybenzene*), action of iodine on, in pyridine solution (ORTOLEVA), A., i, 674.
Cathode rays. See under Photochemistry.
Cathodes. See Electrochemistry.
Cell-life. See Agricultural Chemistry.
Cell-membranes in Bacteria and Fungi, composition of (IWANOFF), A., ii, 279.
Cell-nucleus, oxidative properties of the (LILLIE), A., ii, 621.
rôle of, in oxidation and synthesis (LILLIE), A., ii, 271.
Cellobiose (*cellose*), and its osazone and phenylhydrazone (SKRAUP and KÖNIG), A., i, 135.
Cells. See Electrochemistry.
Cellulose, fermentation of (OMELIANSKI), A., ii, 468.
action of acids on (GOSTLING), P., **1902**, 250.
reaction of, with benzene (NASTUKOFF), A., i, 362, 747.
estimation of (ZEISEL and STRITAR), A., ii, 363.
Cement, modification of Schumann's apparatus for determining the specific gravity of (BECK), A., ii, 106.
Portland, examination of mixtures of slag meal and (BECK), A., ii, 106.
analysis of (REPORT OF AMERICAN SUB-COMMITTEE), A., ii, 227.
Portland and natural, estimation of alkalis in (STILLMAN), A., ii, 175.
Cements, estimation of free and anhydrous lime in (MAYNARD), A., ii, 697.
Centrifugal apparatus, use of, for quantitative analysis (STEINITZER), A., ii, 351.
Cephalopods, copper in the liver of (HENZE), A., ii, 94.
Cerargyrite group (PRIOR and SPENCER), A., ii, 403.
Ceratin (HESSE), A., i, 680.
Cereals, estimation of starch in (LINDET), A., ii, 55, 292.
See also Agricultural Chemistry.
Cerebrin from brain (KOCH), A., ii, 676.
Cerebrospinal fluid (ZDAREK), A., ii, 518.
Cerite metals (BEHRENS), A., ii, 79.
preparation of the, from *Cerium oxalicum medicinale* (BÖHM), A., ii, 455.
electrolytic preparation of (MUTHMANN, HOFER, and WEISS), A., ii, 262.
oxides of, action of alcoholic hydrogen chloride on (MEYER and KOSS), A., i, 692.
See also Earths, rare.
Cerium, influence of, on lanthanum containing didymium and praseodymium (MARC), A., ii, 503.
Cerium hydroxide, action of hydrogen peroxide and of sodium hypochlorite on (PISSARJEWSKY), A., ii, 565.
*per*oxide (BAUR), A., ii, 398; (JOB), A., ii, 399.
oxycarbide (STERBA), A., ii, 399.
silicide (STERBA), A., ii, 563.
tellurate (GUTBIER), A., ii, 558.
Cerium, separation of, from a mixture of rare earths (MEYER and KOSS), A., ii, 262.

Cetylbenzene, *p*-iodo-, and iodo*di*chloride (KLAGES and STORP), A., i, 670.
Cetylmesitylene, iodo- (KLAGES and STORP), A., i, 671.
Cevadine. See Veratrine.
Chalcopyrite as a furnace product (WINCHELL), A., ii, 146.
Chalmersite, a new sulphide of the copper-glance group (HUSSAK), A., ii, 267.
*iso***Chavibetol** (POMERANZ), A., i, 93.
Cheese. See Agricultural Chemistry.
Chelidoxanthin (SCHLOTTERBECK), A., i, 231; (SCHLOTTERBECK and WATKINS), A., ii, 100.
Chemical action. See Affinity.
combination, probable source of heat of (RICHARDS), A., ii, 444.
constitution and composition in relation to density; nitrogen compounds (KANONNIKOFF), A., ii, 244.
and physiological action (LAFFONT), A., ii, 466.
influence of, on the affinity constants of organic acids (WEGSCHEIDER), A., ii, 494.
in relation to affinities of the halogenated hydroxybenzoic acids (COPPADORO), A., i, 783.
dynamics and statics under the action of light (WILDERMANN), A., ii, 545.
of nickel carbonyl (MITTASCH), A., ii, 307.
equilibrium. See Affinity.
notation, suggested modifications of the sign of equality for use in (MARSHALL), A., ii, 553.
transformations, *rôle* of time in (VAN'T HOFF, DONNAN, ARMSTRONG, HINRICHSEN, and WEIGERT), A., ii, 75.
Chestnuts. See Agricultural Chemistry.
Chicory. See Agricultural Chemistry.
Children, composition of the fat in (SIEGERT), A., ii, 34.
See also Infants.
Chitin, constitution of (FRÄNKEL and KELLY), A., i, 479.
Chitosamine. See Glucosamine.
Chloral alcoholate, dissociation of, in solution (BRUNER), A., ii, 305.
campholates, crystallography of (MINGUIN), A., i, 684.
Chloral-β-dinaphthylene oxide (WERNER and GUBSER), A., i, 689.
Chloral hydrate, physical properties of, and its use in pharmaceutical chemistry (MAUCH), A., i, 344.
dissociation of, in solution (BRUNER), A., ii, 305.
Chloral hydrate, the swelling and solution of starch by, and its influence on the iodine starch reaction (MAUCH), A., i, 426.
reaction of, with alkali (BÖTTGER and KÖTZ), A., i, 659.
physiological action of (ARCHANGELSKY), A., ii, 36.
Chloric acid. See under Chlorine.
Chlorinating action of a mixture of hydrochloric acid and oxygen (MATIGNON), A., ii, 556.
Chlorine, amount of, in the drainage through uncropped and unmanured land (MILLER), P., **1902**, 89.
amount of, in the rain-water collected at Rothamsted (MILLER), P., **1902**, 88.
preparation of pure, and its behaviour towards hydrogen (MELLOR and RUSSELL), T., 1272; P., **1902**, 166.
preparation of, from permanganates (GRAEBE), A., ii, 203.
evolution of, from the decomposition of potassium chlorate in presence of manganese oxides (SODEAU), T., 1066; P., **1902**, 136.
direct combination of, with carbon (v. BOLTON), A., ii, 393; (LORENZ), A., ii, 452.
combination of, with carbon monoxide under the influence of light (DYSON and HARDEN), P., **1902**, 191.
union of, with hydrogen (MELLOR and ANDERSON), T., 414; P., **1902**, 32; (MELLOR and RUSSELL), T., 1272; P., **1902**, 166; (MELLOR), T., 1280, 1292; P., **1902**, 169, 170.
under the influence of light (MELLOR and ANDERSON), T., 414; P., **1902**, 32; (BEVAN), A., ii, 237.
gas, action of light on (MELLOR), T., 1280; P., **1902**, 169.
substitution of, by bromine in the organism (HONDO), A., ii, 464.
Hydrochloric acid (*hydrogen chloride*), formation of (MELLOR and ANDERSON), T., 414; P., **1902**, 32; (MELLOR and RUSSELL), T., 1272; P., **1902**, 166; (MELLOR), T., 1280, 1292; P., **1902**, 169, 170.
formation of, under the influence of light (MELLOR and ANDERSON), T., 414; P., **1902**, 32; (BEVAN), A., ii, 237.
boiling solution of, action of, on arsenic acid (HEHNER), A., ii, 695.
and ethane, isotherms for mixture of (QUINT GZN), A., ii, 60.
purification of, from arsenic (THORNE and JEFFERS), P., **1902**, 118.

Chlorine:—
Hydrochloric acid (*hydrogen chloride*), conductivity of, in ethyl ether and the influence of temperature on it (EVERSHEIM), A., ii, 596.
action of Caro's reagent on (WEDEKIND), A., ii, 498.
action of, on aqueous formaldehyde (COOPS), A., i, 77.
combination of, with metallic sulphates (BASKERVILLE), A., ii, 208.
and nitric acid, relative strength of (KÜHLING), A., ii, 79, 252; (SACKUR; BODLÄNDER), A., ii, 204; (BODLÄNDER and SACKUR), A., ii, 314.
detection of arsenic in (SEYBEL and WIKANDER), A., ii, 289; (ARNOLD and MENTZEL), A., ii, 354.
quantitative separation of, from hydrogen cyanide (RICHARDS and SINGER), A., ii, 434.
Hypochlorous acid and its salts, behaviour of, during electrolysis (MÜLLER), A., ii, 591; (LUTHER), A., ii, 641; (FOERSTER and MÜLLER), A., ii, 642.
action of, on praseodymium dioxide (MELIKOFF and KLIMENKO), A., ii, 263.
Hypochlorites, current and energy efficiencies obtained in the electrolytic formation of (FOERSTER and MÜLLER), A., ii, 240.
and hypobromites, stability of (GRAEBE), A., ii, 556.
Chloric acid, electromotive behaviour of (MÜLLER), A., ii, 591; (LUTHER), A., ii, 641.
Chlorates, current and energy efficiencies obtained in the electrolytic formation of (FOERSTER and MÜLLER), A., ii, 240.
decomposition of (SODEAU), T., 1066; P., **1902**, 136.
Perchloric acid, hydrates of (VAN WIJK), A., ii, 649.
Perchlorate formation, theory of (SODEAU), T., 1066; P., **1902**, 136.
estimation of, in saltpetre (DUPRÉ), A., ii, 529.
Chlorine hydrate, composition of (DE FORCRAND), A., ii, 392.
heat of formation of (DE FORCRAND), A., ii, 123.
Chlorine, estimation of:—
estimation of, by gasometric method (RIEGLER), A., ii, 104.
estimation of, in natural waters (WINKLER), A., ii, 46.
Chlorite from Aj River, Zlatoust (ZEMJATSCHENSKY), A., ii, 147.
β-Chloro-alcohols, formation of aldehydes and ketones from (KRASSUSKY), A., i, 425.
Chloro-anhydrides, polymerisation of (ODDO), A., ii, 6; (CIAMICIAN), A., ii, 123.
Chloroform vapour, action of, on resting seeds (SCHMID), A., ii, 683.
estimation of (PUCKNER), A., ii, 53.
vapour, estimation of, in air (WALLER), A., ii, 631.
Chlorohydrins, constitution of (HENRY), A., i, 417; (TIFFENEAU), A., i, 449.
Chlorophyll. See Agricultural Chemistry.
Chlorosulphonic acid, decomposition of, into sulphuryl chloride and sulphuric acid (RUFF), A., ii, 13.
Chocolate, detection of sesamé oil in (UTZ), A., ii, 482.
Cholesterol, esters of (BÖMER and WINTER), A., i, 30.
Cholesterols, separation of, quantitatively, from fats (RITTER), A., ii, 111.
Choline as a criterion for artificial brandy (STRUVE), A., ii, 636.
influence of, on secretions (DESGREZ), A., ii, 574.
Chondro-albumoid (HAWK and GIES), A., i, 408; ii, 518.
Chondroitinsulphuric acid, feeding experiments with (KETTNER), A., ii, 464.
Chromite (*chrome iron ore*) from the Rhodope Mountains (KOVÁŘ), A., ii, 328.
Chromium compounds, constitution of (WYROUBOFF), A., ii, 565, 609.
Chromium salts, action of potassium ferricyanide and soluble chlorates on (SAGET), A., ii, 210.
oxidation of (DAKIN), A., ii, 533.
Chromammonium salts (WERNER and KLIEN), A., ii, 210.
Chromium boride (TUCKER and MOODY), T., 16; P., **1901**, 129.
bromides, hydrated (WERNER and GUBSER), A., i, 688.
chlorides, preparation of (DÖRING), A., ii, 660.
Chromic chloride (ROHLAND), A., ii, 144.
Chromium hydroxide (FISCHER and HERZ), A., ii, 564.
oxidisability of (ANTONY and PAOLI), A., ii, 661.
Chromic oxide (*chromium sesquioxide*), compounds of, with alumina (DUBOIN), A., ii, 400.
Chromium *trio*xide, crystallisation of (DITTE), A., ii, 264.

Chromium *trioxide*, action of hydrogen chloride on (AUTENRIETH), A., ii, 458.
Chromic acid, action of, on hydrogen peroxide (BACH), A., ii, 251.
diabetes (KOSSA), A., ii, 219.
detection of, by hydrogen peroxide in presence of vanadic acid (REICHARD), A., ii, 51.
and dichromic acid, salts of (AUTENRIETH), A., ii, 437.
Chromates, double, new series of (BRIGGS), P., **1902**, 254.
analysis of (HERZ), A., ii, 290.
Sulphochromic acid and its salts (WYROUBOFF), A., ii, 609.
Chromo-mono- and **-di-sulphochromic acids** (WYROUBOFF), A., ii, 609.
Chromium chlorosulphate (RECOURA), A., ii, 563.
vanadous sulphate (PICCINI and MARINO), A., ii, 664.
Chromammonium organic compounds (PFEIFFER), A., i, 138.
Chromium organic compounds:—
halogen compounds with alcohol (KOPPEL), A., ii, 83.
Chromicyanic acid, thallium and potassium thallium salts (FISCHER and BENZIAN), A., i, 272.
Chromo-oxalates, red alkali (ROSENHEIM and COHN), A., i, 74.
Diethylenediaminechromium salts, *di*thiocyano- (PFEIFFER), A., i, 138.
Ethylenediaminechromium salts and thiocyano- (PFEIFFER), A., i, 138.
Hexacarbaminochromic salts (WERNER and KALKMANN), A., i, 687.
Hydroxytriaquo- and **Dihydroxydiaquodipyridinechromium** and **Tetraaquodipyridinechromium** salts (PFEIFFER), A., i, 728.
Chromone (*benzo*-1:4-*pyrone*) and its homologues, salts of (RUHEMANN), T., 420; P., **1902**, 45.
Chromone, and its **-2-carboxylic acid** (HEYWANG and v. KOSTANECKI), A., i, 816.
Chromone derivatives (v. KOSTANECKI and FROEMSDORFF; v. KOSTANECKI and DE RUIJTER DE WILDT), A., i, 303; (DAVID and v. KOSTANECKI), A., i, 690; (HEYWANG and v. KOSTANECKI), A., i, 816.
Chromophore groups (RUPE and WASSERZUG), A., i, 40.
Chromosantonin (MONTEMARTINI), A., i, 545.
Chrompicotite from British Columbia (HOFFMANN), A., ii, 328.
Chrysanthrol. See Dihydroxyanthranol.
Chrysarobin and its acetyl compounds from commercial chrysarobin (JOWETT and POTTER), T., 1578; P., **1902**, 192.
Chrysazin, reduction of, with hydrogen iodide (SCHROBSDORFF), A., i, 773.
*p-di*bromo- and *p*-dichloro- (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 477.
Chrysodiphenic acid. See 2-Phenylnaphthalene-1:7-dicarboxylic acid.
Chrysophanic acid and its acetyl derivative (JOWETT and POTTER), T., 1583; P., **1902**, 192.
Chrysoquinone sulphate (KEHRMANN and MATTISSON), A., i, 229.
Chrysotile from the Rhodope Mountains (KOVÁŘ), A., ii, 328.
Chymosin. See Rennin.
Cinchomeron-3-amic acid and its silver salt (GABRIEL and COLMAN), A., i, 842.
Cinchomeronic acid, derivatives of (GABRIEL and COLMAN), A., i, 401, 840.
α-methyl ester, conversion of, into apophyllenic acid (KIRPAL; KAASS), A., i, 564.
α- and β-methyl esters and their methiodides (KAASS), A., i, 565.
Cinchomeronimidine and *iso*nitroso-, and their salts (GABRIEL and COLMAN), A., i, 842.
Cinchomerylglycine, ethyl ester (GABRIEL and COLMAN), A., i, 401.
Cinchonidine ethyl carbonate (VEREINIGTE CHININFABRIKEN ZIMMER & Co.), A., i, 392.
Cinchonifine and **Cinchonine** (SKRAUP), A., i, 306.
*allo***Cinchonine** and its salts and acetyl and benzoyl derivatives (v. PECSICS), A., i, 725.
sulphate, oxidation of (SKRAUP and ZWERGER), A., i, 726.
α-*iso***Cinchonine**, oxidation of, and its methiodide (SKRAUP and ZWERGER), A., i, 305.
*iso***Cinchonines**, α- and β-, physical properties of (SKRAUP), A., i, 305.
Cinchotine (SKRAUP), A., i, 306.
Cinchotinesulphonic acid (SCHMID), A., i, 53.
Cineol from oil of rue (POWER and LEES), T., 1590; P., **1902**, 193.
Cinnamaldehyde, condensation of, with isobutaldehyde (MICHEL and SPITZAUER), A., i, 292.
Cinnamenylacrylic acid, action of barium hydroxide on (DOEBNER), A., i, 599.
Cinnamenylpyridazine and its salts (POPPENBERG), A., i, 62.

Cinnamic acid (*β-phenylacrylic acid*), conversion of, into α-truxillic acid (RIIBER), A., i, 785.
Cinnamic acid, salts, solubilities of (TARUGI and CHECCHI), A., i, 204.
Cinnamic acid, α- and β-*di*bromo-, action of sulphuric acid on (GLAWE), A., i, 782.
p-chloro-α-cyano-, and its esters (v. WALTHER and RAETZE), A., i, 467.
*op-di*nitro-, and its salts, ethyl ester, and dibromide (FRIEDLÄNDER and FRITSCH), A., i, 782.
Cinnamic acids, three isomeric, and their derivatives (MICHAEL), A., i, 32.
Cinnamon oil from Ceylon, constituents of (WALBAUM and HÜTHIG), A., i, 685.
Cinnamoylaminoacetic acid, and its ester and nitrile (KLAGES), A., i, 355.
2-Cinnamoyl-3-methylquinoxaline (SACHS and RÖHMER), A., i, 837.
Cinnamylideneacetophenone phenylhydrazone and semicarbazone (SORGE), A., i, 379.
Cinnamylidene-*p*-aminoazobenzene (WIELEŻYŃSKI), A., i, 510.
Cinnamylidenemalonic acid, bimolecular. See Diphenyltetramethylenebismethylenemalonic acid.
Cinnamylidene-methyl- and **-ethylamines** (ANDREE), A., i, 210.
Cinnamylquinine hydrochloride (KALLE & Co.), A., i, 692.
Citraconanil bromide and bromo- (FICHTER and PREISWERK), A., i, 443.
Citralideneacetic acid and its ethyl ester (TÉTRY), A., i, 585.
Citralideneacetoacetic acids (*iononecarboxylic acids*), ethyl esters, aliphatic and cyclic (HAARMANN & REIMER), A., i, 342.
*cyclo***Citrals** (HAARMANN & REIMER), A., i, 385.
Citrapten and its derivatives (SCHMIDT and ADLUNG), A., i, 45.
Citrarialic acid (ZOPF), A., i, 789.
Citric acid, action of bromine and potassium permanganate on (WÖHLK), A., ii, 364.
action of formaldehyde on (STERNBERG), A., i, 259.
detection of, in milk (WÖHLK), A., ii, 364; (DENIGÈS), A., ii, 365.
Citric acid, ferric salt, distinction between ferric potassium tartrate and (FIORA), A., i, 235.
Citric acid, dimethyl hydrogen ester, and its salts (SCHROETER and SCHMITZ), A., i, 531.
Clay, plasticity of (ROHLAND), A., ii, 497.
Clays, rational analysis of (SABECK), A., ii, 429.
Cloëz reaction (CHATTAWAY and WADMORE), P., **1902**, 56.
Clover. See Agricultural Chemistry.
Cloves, oil of, estimation of eugenol in (VERLEY and BÖLSING), A., ii, 54.
Coagulation of blood in marine animals (BOTTAZZI), A., ii, 410.
Coaguloses (KURAÉEFF) A., i, 731.
Coal, formation of (STEIN), A., ii, 87.
estimation of sulphur in (REITLINGER), A., ii, 692.
Coals, European, use of the peroxide calorimeter for (PARR), A., ii, 432.
See also Fuel.
Coal-gas, cyanogen compounds in (HARTLEY), A., i, 208.
detection and estimation of small quantities of hydrogen sulphide in (DIBDIN and GRIMWOOD), A., ii, 582.
Coal tar, isomeric dimethylcoumarones in (BOES), A., i, 151.
dimethylindenes in (BOES), A., i, 435.
methylindenes from (BOES), A., i, 534.
α- and β-naphthafurfurans from (BOES), A., i, 554.
Cobalt alloys with copper, electrical properties of (REICHARDT), A., ii, 118.
Cobaltammonium compounds:—
Cobalt bases, number of ions in (PETERSEN), A., ii, 126.
Luteocobalt salts (KLOBB), A., ii, 143.
crystallography of (KLOBB), A., ii, 23.
Luteocobaltiammine *per*chlorates (ALVISI) A., ii, 24.
Alvisi's, crystallography of (MILLOSEVICH), A., ii, 24.
Cobalt-tetrammine series, isomerism in the (HOFMANN and JENNY), A., ii, 81.
Cobalt salts, conditions of equilibrium of deliquescent and hygroscopic (HARTLEY), A., ii, 197.
compounds of, with cupric oxide (MAILHE) A., ii, 140, 262.
Cobalt chloride, colour changes of (DONNAN and BASSETT), T., 939; P., **1902**, 164.
compound of, with ethyl alcohol (BOURION), A., i, 334.
compound of, with iodine trichloride (WEINLAND and SCHLEGELMILCH), A., ii, 315.
hydroxide, action of sulphurous acid on (CARPENTER), T., 11; P., **1901**, 212.
ammonium phosphate, estimation of, volumetrically (DAKIN), A., ii, 628.
Cobaltous potassium sulphate (MALLET), T., 1551; P., **1902**, 198.

Cobalt organic compounds:—
Cobalticyanic acid, thallium and potassium thallium salts (FISCHER and BENZIAN), A., i, 272.
Cobaltioxalic acid, alkali salts (COPAUX), A., i, 586.
Cobalt, detection and separation of:—
test for (DANZIGER), A., ii, 533.
modification of Rose's method for the separation of, from nickel (TAYLOR), A., ii, 476.
quantitative separation of, from zinc (ROSENHEIM and HULDSCHINSKY), A., ii, 697.
Cocaine hydrochloride, decomposition of (HORST), A., i, 306.
detection of (PROELSS), A., ii, 295.
Coccic acid (HESSE), A., i, 681.
Cochenillic acid, trimethyl ester, and anhydride (LIEBERMANN and LINDENBAUM), A., i, 787.
Cocoa butter (*cocoanut oil*) composition of (KLIMONT), A., i, 340.
Cocoa-shell powder, analysis of (WELMANS), A., ii, 372.
Cœlenterata, poison of the tentacles of. See Hypnotoxin.
Coffee, oil of (ERDMANN), A., i, 551.
berries, constituents of (GRAF), A., ii, 40.
tree, constituents of the flowers of the (GRAF), A., ii, 470.
Collagen and reticulin (TEBB), A., ii, 218; (SIEGFRIED), A., ii, 517.
s-**Collidine**. See 2:4:6-Trimethylpyridine.
Colloidal bubbles, formation of, from heptylamine soaps and water (KRAFFT; KRAFFT and FUNCKE), A., ii, 601.
metallic solutions, barium sulphate as a reagent for (VANINO), A., ii, 249.
metals. See Gold, Mercuric oxide, Silver and its oxide.
solutions, osmotic properties of (MOORE and PARKER), A., ii, 413.
behaviour of insoluble inorganic compounds in (DE BRUYN), A., ii, 646.
Colloids (WYROUBOFF), A., ii, 128.
nature and properties of (ZACHARIAS), A., ii, 249.
physical changes in the condition of (PAULI and RONA), A., ii, 388.
the red solution of gold as a reagent for (ZSIGMONDY), A., ii, 188.
precipitation of, by electrolytes (WHITNEY and OBER), A., ii, 65.
Colophony (FAHRION), A., i, 165, 301.
estimation of, in the presence of fatty acids (HOLDE), A., ii, 632.
Coloradoite from Western Australia (SIMPSON), A., ii, 509, 510.
Colostrum. See Agricultural Chemistry.
Colour changes of cobalt, copper, and ferric chlorides (DONNAN and BASSETT), T., 939; P., **1902**, 164.
Colouring matters of the æsculetin series (LIEBERMANN and LINDENBAUM), A., i, 785.
from the diazotisation of diaminodiethyldiphenyl, benzidine and tolidine (SCHULTZ and FLACHSLÄNDER), A., i, 752.
blue, of the anthracene series (BADISCHE ANILIN- & SODA-FABRIK), A., i, 721.
anthracene, containing nitrogen (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 722.
of apricots (DESMOULIÈRE), A., ii, 685.
of the benzaldehyde-green and rosamine groups (LIEBERMANN), A., i, 636.
green, from the blood of animals and persons poisoned by phenylhydrazine (LEWIN), A., i, 67; ii, 160.
of the Capri-blue group (MÖHLAU, KLIMMER, and KAHL), A., i, 838.
from the flowers of *Delphinium Consolida* (PERKIN and WILKINSON), T., 585; P., **1900**, 182.
of *Copaifera bracteata* (KLEEREKOPER), A., i, 48, 111.
of green ebony (PERKIN and BRIGGS), T., 210; P., **1902**, 11.
from *Isatis tinctoria* (MARCHLEWSKI), A., i, 616.
naphthacridine (ULLMANN), A., i, 55, 56, 499, 500; (ULLMANN and MARIĆ), A., i, 183; (ULLMANN, RACOVITZA, and ROZENBAND; ULLMANN, ROZENBAND, MÜHLHAUSER, and GRETHER), A., i, 240.
nitrosophenol (DECKER and v. SOLONINA), A., i, 767.
oxazine and thiazine, constitution of, and their relation to azonium compounds (KEHRMANN), A., i, 566.
phenolic, reaction of (PERKIN and WILSON), P., **1902**, 215.
from *Picea vulgaris* (TSCHIRCH and KOCH), A., i, 552.
thiazine (AKTIENGESELLSCHAFT FÜR ANILIN-FABRIKATION), A., i, 495, 496.
yellow, from thiocyanates (GOLDBERG), A., i, 137.
triphenylmethane, ionic phenomena exhibited by (FISCHER), A., i, 717.
from 2:3:8-trihydroxynaphthalene and diazotised sulphanilic acid (FRIEDLÄNDER and SILBERSTERN), A., i, 795.

Colouring matters of urine (RÖSSLER), A., i, 49.
rise of, in plants (GOPPELSROEDER), A., ii, 424.
action of, on the activity of yeasts (ROSENSTIEHL), A., ii, 219.
acid, dyeing of animal fibres by (SISLEY), A., i, 815.
artificial, detection of, in fresh and sour milk (BLYTH), A., ii, 540.
Colouring matters. See also :—
Alizarin.
Apigenin.
Bilirubin.
Biliverdin.
Brazilein.
Brazilin.
Carboxyhæmoglobin.
Catechins.
Chlorophyll.
Digitoflavone.
Di-indigotin.
Dimethylindigotins.
Excoecarin.
Excoecarone.
Haematein.
Hæmatoxylin.
Hæmoglobins.
Hæmoverdin.
Hexamethylindigotin.
Indigo.
Indigo-red.
Indigo-white.
Indigotin.
Indirubin.
Isatocyanin.
Jacarandin.
Kampherol.
Luteolin.
Mesoporphyrin.
Myricetin.
Myrticolorin.
Osyritrin.
Phoenicein.
Phylloporphyrin.
Proteinchromone.
Quercetagetin.
Quercetin.
Rhamnazin.
Rhamnetin.
Robinin.
Scatocyanin.
Scutellarein.
Tannins.
"Taran."
Tetramethylhæmatoxylin.
5:7:5′:7′-Tetramethylindigotin.
Trimethylbrazilin.
Urobilin.
Violaquercitrin.
Combustions, automatic regulation of the evolution of carbon dioxide and nitrogen in (DEIGLMAYR), A., ii, 474.
Compounds, complex, investigation of, in solution (BODLÄNDER), A., ii, 63.
Compressibility of gases at low pressure (BATTELLI), A., ii, 244.
of vapours, accurate method of measuring the (STEELE), T., 1076; P., **1902**, 165.
Conchite, identity of ktypeite with (VATER), A., ii, 89.
Condenser, simple (HABERMANN and OESTERREICHER), A., ii, 201.
Condensers and Reflux condensers (LANDSIEDL), A., ii, 390.
Condiments. See Agricultural Chemistry.
Conductivity, electrical. See Electrochemistry.
l-**Coniine** and its salts (AHRENS), A., i, 391.
*iso***Coniine** (LADENBURG), A., i, 54.
Contact reactions, apparatus for studying (TRILLAT), A., ii, 602.
pyrogenic, of organic compounds (IPATIEFF), A., i, 4, 335.
Contraction, rhythmic, effect of calcium and of free oxygen on (MAXWELL and HILL), A., ii, 621.
Copaivic acids. See β-Metacopaivic and Paracopaivic acids.
Copal, Manila. See Resin of *Dammara orientalis.*
Copazoline, 4-chloro- (GABRIEL and COLMAN), A., i, 841.
Copper, theory of the electrolytic extraction of (EGLI), A., ii, 323.
application of the phase rule to the fusing point of (RICHARDS), A., ii, 455.
pseudo-solution of (GUTBIER), A., ii, 610.
behaviour of salt solutions towards (OST), A., ii, 658.
reduction of, by solutions of ferrous salts (BIDDLE), A., ii, 18.
metallic, action of, on roots (LEHMANN), A., ii, 420.
in the liver of Cephalopods (HENZE), A., ii, 94.
combination of, in the liver (SLOWTZOFF), A., ii, 618.
Cuprammonium salts, constitution of (BOUZAT), A., ii, 502.
chlorides, anhydrous (BOUZAT), A., ii, 607.
oxide, displacement of strong bases by (BOUZAT), A., ii, 550.
Copper alloys with aluminium (GUILLET), A., ii, 21.
with antimony, iron, lead, and tin, analysis of (PONTIO), A., ii, 478.

Copper alloys with cobalt, electrical properties of (REICHARDT), A., ii, 118.
with tin, constitution of (HEYCOCK and NEVILLE), A., ii, 261.
Copper salts, conditions of equilibrium of deliquescent and hygroscopic (HARTLEY), A., ii, 197.
oxidising action of (SCHAER), A., ii, 140.
Copper bromo-, chloro-, and iodo-bismuthites (DUCATTE), A., ii, 503.
chloride, colour changes of (DONNAN and BASSETT), T., 955; P., **1902**, 164.
nitrate, action of, on benzene (WASSILIEFF), A., i, 361.
sulphate, mixed crystals of, with zinc sulphate (FOOTE), A., ii, 19.
influence of, on the vapour pressure of aqueous ammonia solution (PERMAN), T., 487; P., **1901**, 261.
action of, on meteoric irons (FARRINGTON), A., ii, 569.
sulphide, solubility of, in alkali sulphides (RÖSSING), A., ii, 230.
Cupric bromide and chloride, precipitation of, by sulphuric acid (VIARD), A., ii, 562.
hydroxide, action of, on aqueous solutions of metallic salts (MAILHE), A., ii, 140, 261.
nitrate, compound of, with cupric oxide (MAILHE), A., ii, 261.
oxide, ammoniacal, thermochemistry of (BOUZAT), A., ii, 490.
displacement of strong bases by (BOUZAT), A., ii, 550.
Cuprous compounds, ions of (BODLÄNDER), A., ii, 642.
ion, nature of the (BODLÄNDER and STORBECK), A., ii, 502.
haloids (BODLÄNDER and STORBECK), A., ii, 502, 607.
chloride, preparation and reactions of (GRÖGER), A., ii, 19.
iodide, density of (SPRING), A., ii, 608.
oxide, yellow (GRÖGER), A., ii, 562.
Copper organic compounds:—
thiocyanates, compounds of, with pyridine (LITTERSCHEID), A., i, 308.
compounds of, with quinoline and *iso*quinoline (LITTERSCHEID), A., i, 829.
Cuprous thiocyanate, action of potassium cyanide on (ITZIG), A., i, 208.
Copper, estimation and separation of:—
Lake Superior fire assay for (HEATH), A., ii, 698.
crude, analysis of (TRUCHOT), A., ii, 228, 290.
Copper, estimation and separation of:—
estimation of, by aluminium foil (PERKINS), A., ii, 475.
estimation of, by potassium permanganate (GUESS), A., ii, 698.
estimation of, gravimetrically and volumetrically (COHN), A., ii, 50.
estimation of, volumetrically (PARR), A., ii, 532.
estimation of, volumetrically, by potassium iodide (LITTERSCHEID), A., ii, 531.
estimation of, as cuprous thiocyanate in presence of antimony, arsenic, bismuth, and tin (VAN NAME), A., ii, 358.
estimation of, as cuprous thiocyanate, influence of hydrochloric acid on the (VAN NAME), A., ii, 357.
estimation of, electrolytically, in iron (KOCH), A., ii, 357.
estimation of, in pyrites (HAAS), A., ii, 229.
separation of, from antimony, lead, and tin (RÖSSING), A., ii, 230.
Copper pyrites from St. Agnes, Cornwall (PRIOR), A., ii, 404.
Copyrine, derivatives of (GABRIEL and COLMAN), A., i, 401.
Cordierite from Långfals Mine, Grangärde, Dalarne (WEIBULL), A., ii, 409.
Corpse, exhumed, estimation of nitroglycerol in an (POND), A., ii, 361.
Corpses, putrefying, behaviour of morphine and strychnine in (AUTENRIETH), A., ii, 368.
Corundum-syenites in Madras (HOLLAND), A., ii, 148.
*iso***Corybulbine**, **Corycavamine**, and **Corydine** (GADAMER, ZIEGENBEIN, and WAGNER), A., i, 306.
Corycavamine and **Corydine** and their salts (GADAMER, ZIEGENBEIN, and WAGNER), A., i, 391.
Corycavine (GADAMER, ZIEGENBEIN, and WAGNER), A., i, 307, 391.
Corydaldine (DOBBIE and LAUDER), T., 146; P., **1901**, 252.
Corydaline and its constitution and oxidation products (DOBBIE and LAUDER), T., 145; P., **1901**, 252.
relation of, to berberine (DOBBIE and LAUDER), T., 145, 157; P., **1901**, 252, 255.
Corydalinesulphonic acid (GADAMER, ZIEGENBEIN, and WAGNER), A., i, 307.
Corydilic acid and **Corydic acid** and their oxidation (DOBBIE and LAUDER), T., 146; P., **1901**, 252.
Corytuberine and its salts (GADAMER, ZIEGENBEIN, and WAGNER), A., i, 392.

Cotarnic acid, methylimide of (FREUND and WULFF), A., i, 556.
Cotarnine (FREUND and WULFF; FREUND and BAMBERG), A., i, 556.
Cotoin, constitution of, and its nitroso-derivative (POLLAK), A., i, 165.
Cottonseed oil, the Bechi test for (GILL and DENNISON), A., ii, 482.
Halphen's reaction for (STEINMANN; RAIKOW), A., ii, 366.
Cotton seeds of various origins cultivated in Central Asia, oil of (TSCHERNEVSKY), A., ii, 685.
Coulometer. See Voltameter under Electrochemistry.
Coumarilic acid, *mono-* and *di*-chloro- (TILDEN and BURROWS), T., 511; P., **1901**, 217.
ψ-Coumarin from *Dorstenia Klaineana* (HECKEL and SCHLAGDENHAUFFEN), A., ii, 101.
Coumarone, mercury compounds of (BOES), A., i, 151.
Coumarone, 1- and 2-bromo- (STOERMER and KAHLERT), A., i, 457.
1-nitro-, and its reactions (STOERMER and KAHLERT), A., i, 457.
Coumarones, homologous (BOES), A., i, 291.
Cows. See Agricultural Chemistry.
Crab and *Sacculina*, comparison of the organic liquids of the (BRUNTZ and GAUTRELET), A., ii, 676.
Cream of tartar. See Tartaric acid, potassium hydrogen salt.
Creatine and **Creatinine** (JOLLES), A., i, 231.
action of formaldehyde on (JAFFÉ), A., i, 748.
Crenilabrus pavo, blue pigment from (v. ZEYNEK), A., i, 168.
***o*-Cresol**, *tetra*bromo-, methyl ethers of (ANSELMINO), A., i, 216.
3:5-*di*bromo-ω-nitro-, and its acetate (STEPHANI), A., i, 148.
***m*-Cresol**, critical constant and molecular complexity of (GUYE and MALLET), A., ii, 243.
***m*-Cresol**, *tetra*bromo-, methyl ethers of (ANSELMINO), A., i, 216.
*tri*bromo-ω-nitro- (STEPHANI), A., i, 148.
***p*-Cresol**, condensation of, with benzaldehyde (FEUERSTEIN and LIPP), A., i, 769.
ψ-bromide, *tetra*chloro-. See *p*-Hydroxybenzyl bromide, *tetra*chloro-.
***p*-Cresol**, bromo-derivatives (ZINCKE and WIEDERHOLD), A., i, 284.
*di*bromo-, nitroketone and ψ-quinol of (AUWERS), A., i, 217.
***p*-Cresol**, 3-bromo-5-nitro-, and its acetyl derivative (AUWERS), A., i, 218.
o-iodo- (DIMROTH), A., i, 850.
thio-, and its derivatives (RABAUT), A., i, 673.
***p*-Cresolmercury** salts (DIMROTH) A., i, 849.
hydroxide, internal anhydride of (DIMROTH), A., i, 849.
β-Cresotic acid. See 2-Hydroxy-*m*-toluic acid.
Critical constants, measurement of (GUYE and MALLET), A., ii, 195, 242, 243, 302.
extension of the idea of (BATSCHINSKI), A., ii, 444.
of hydrocarbons (GUYE and MALLET), A., ii, 195, 303.
and molecular complexity of some organic compounds (GUYE and MALLET), A., ii, 243, 303.
Critical phenomena and vaporisation, theory of the (TRAUBE), A., ii, 551.
Crocin, dextrose from (KASTNER), A., i, 685.
Crotonacetal and its conversion into methyltriose (WOHL and FRANK), A., i, 532.
Crotonic acid, **β**-amino-, menthyl ester (LAPWORTH and HANN), T., 1505; P., **1902**, 145.
αβ-*di*bromo-, and its isomeride, methyl esters of (MICHAEL and MIGHILL), A., i, 129.
bromo- and chloro-amino-, ethyl esters (BEHREND and SCHREIBER), A., i, 14.
Crotonylolhomonicotinic acid, lactone of, and its salts (KOENIGS), A., i, 180.
Cryoscopic researches (CHRUSTSCHOFF), A., ii, 382.
Cryoscopy, new proof of the formula $d=\frac{0{\cdot}02T^2}{L}$ (LENGFELD), A., ii, 5.
See also Freezing point.
Crystalline form and molecular structure, relation between (ZIRNGIEBL), A., ii, 496.
of distilled metals (KAHLBAUM, ROTH, and SIEDLER), A., ii, 259.
liquids, so-called (TAMMANN), A., ii, 445.
Crystallisation and fusion (DUHEM), A., ii, 61.
of chromium trioxide (DITTE), A., ii, 264.
of iron (OSMOND and CARTAUD), A., ii, 400.
of peroxide of iron (DITTE), A., ii, 326.

Crystallography of platinichlorides of aliphatic amines (RIES), A., i, 747.
of ammonium haloids (SLAVÍK), A., ii, 561.
of anisylidene-, benzylidene-, ethylsalicylidene-, and methylsalicylidene-camphor (MINGUIN), A., i, 632.
of benzylidenecamphor and its bromo-derivative (MINGUIN), A., i, 798.
of the brominated derivatives of benzylidene- and benzyl-camphor (MINGUIN), A., i, 685.
of the borneols and their esters, and of bromal and chloral bornylate (MINGUIN), A., i, 684.
of carbamide and its derivatives (MEZ), A., i, 86.
of some luteocobaltic salts (KLOBB), A., ii, 23.
of Alvisi's luteocobaltiammine perchlorates (MILLOSEVICH), A., ii, 24.
of methyl and ethyl methylcamphocarboxylate, methylcamphoronitrile, and methylcamphorimide (MINGUIN), A., i, 658.
Crystals, method for separating, from alloys (VAN EIJK), A., ii, 496.
mixed, formation of, by sublimation (BRUNI and PADOA), A., ii, 648.
isomorphous, of hydrated salts, heterogeneous equilibrium between (BRUNI and MEYERHOFFER), A., ii, 308.
hydrated, decomposition of (HOLLMANN), A., ii, 446.
of copper sulphate and zinc sulphate (FOOTE), A., ii, 19.
of magnesium and zinc sulphates (HOLLMANN), A., ii, 446.
of selenium and sulphur (RINGER), A., ii, 651.
of silver chlorate and sodium chlorate, and their solutions (FOOTE), A., ii, 453.
Cumarophenazine, 2-(or 3-) chloro- (v. KORCZYNSKI and MARCHLEWSKI), A., i, 647.
ψ-Cumenol *tri*bromides (AUWERS and ANSELMINO), A., i, 214; (ANSELMINO), A., i, 286.
*tri*bromide, second, constitution of (AUWERS and ANSELMINO), A., i, 214.
ψ-Cumenol, its bromo-, cyano-, nitro-, and thiocyano-derivatives and their acetyl compounds and ethers (AUWERS, SCHUMANN, and BROICHER), A., i, 147.
*di*bromo-, ethyl ether (ANSELMINO), A., i, 216.
*s-penta*bromo- (AUWERS and ANSELMINO), A., i, 215.
ψ-Cumenol. See also *p*-Hydroxy-ψ-cumyl.
Cuminaldehyde, condensation of, with ethyl cyanoacetate (GUARESCHI), A., i, 819.
condensation of, with quinaldine (v. GRABSKI), A., i, 563.
ψ- and *p*-Cumyl-arsenic acids and **-chloroarsines** (MICHAELIS and OBERG), A., i, 416.
β-ψ-Cumyl-β-butylene (KLAGES), A., i, 668.
Cumylidene- and Cumyl-methylamines and **-ethylamines** and their salts (SCHWABBAUER), A., i, 230.
ψ-Cumyl methyl ketone, oxidation of (VAN SCHERPENZEEL), A., i, 103.
ψ-Cumylsulphoneacetic acid (TRÖGER and BUDDE), A., i, 776.
ψ-Cumylsulphone-ethylalcohol and ether (TRÖGER and BUDDE), A., i, 775.
Cupriferous ochre from New Jersey (CHESTER), A., ii, 611.
Curare, action of, on the excretion of carbon dioxide and nitrogen (FRANK and v. GEBHARD), A., ii, 417.
physiological action of (ROTHBERGER), A., ii, 38.
Curare poisoning, metabolism during (FRANK and VOIT), A., ii, 161.
Current. See Electrochemistry.
Cyamelide (SENIER and WALSH), T., 290; P., **1902**, 13.
Cyanogen, spectrum of, peculiarities in the (KING), A., ii, 373.
spectrum of, in coal gas flame (HARTLEY), A., i, 208.
solvent and dissociative power of liquid (CENTNERSZWER), A., ii, 126.
Cyanogen compounds in coal gas (HARTLEY), A., i, 208.
Cyanogen bromide, action of, on tertiary amines (v. BRAUN and SCHWARZ), A., i, 365.
chloride, action of, on sodium camphor (DUVAL), A., i, 106.
haloids, constitution and reactions of (CHATTAWAY and WADMORE), T., 192; P., **1902**, 5.
Hydrocyanic acid (*hydrogen cyanide*), in sweet cassava (CARMODY), A., ii, 100.
in the buds of Prunus (VERSCHAFFELT), A., ii, 523.
in plants (DUNSTAN and HENRY), A., ii, 578.
preparation of, in the electric furnace (HOYERMANN), A., i, 355.
constitution of (CHATTAWAY and WADMORE), T., 191; P., **1902**, 5; (WADE), T., 1596; P., **1902**, 65.

Cyanogen:—
Hydrocyanic acid (*hydrogen cyanide*), liquid, solvent and dissociative power of (CENTNERSZWER), A., ii, 126.
detection of, in presence of thiocyanic, hydroferrocyanic, and hydroferricyanic acids and their salts (PREISS), A., ii, 706.
estimation of (ARCHETTI), A., ii, 538.
quantitative separation of, from hydrogen chloride (RICHARDS and SINGER), A., ii, 434.
Cyanide, estimation of, in presence of a chloride (GATEHOUSE), A., ii, 53.
Cyanic acid, constitution of (CHATTAWAY and WADMORE), T., 191; P., **1902**, 5.
polymerisation of (SENIER and WALSH), T., 290; P., **1902**, 13.
*iso***Persulphocyanic acid**, formation of (DIXON), T., 168; P., **1901**, 261.
Cyanohæmoglobin. See under Hæmoglobin.
Cyanuric acid (SENIER and WALSH), T., 290; P., **1902**, 13.
constitution of (CHATTAWAY and WADMORE), T., 191; P., **1902**, 6.
Cyanuric acid, mercuric salt (HANTZSCH), A., i, 662.
Cyanuric acid, *tri*chloroimino- (CHATTAWAY and WADMORE), T., 200; P., **1902**, 6.
*iso***Cyanuric acid**, mercuric salt (HANTZSCH), A., i, 662.
Cyclic compounds, heats of combustion of (ZUBOFF), A., i, 144.
Cymene, 2- and 3-iodo-, and iododichlorides (KLAGES and STORF), A., i, 671.
Cynoglossine-Riedel (SIEDLER and KÖRNER), A., i, 487.
Cystein, constitution of (NEUBERG), A., i, 743.
Cystin from proteid, constitution of (FRIEDMANN), A., i, 731.
behaviour of, to phosphotungstic acid (WINTERSTEIN), A., ii, 294.
metallic compounds of (MAUTHNER), A., i, 133.

D.

Daboia russellii, poison of the (LAMB and HANNA), A., ii, 278.
Dammar resin, solubility of (COFFIGNIER), A., i, 633.
Dammara orientalis, resin of (TSCHIRCH and KOCH), A., i, 478.
Dates. See Agricultural Chemistry.
Datolite from Canada (HOFFMANN), A., ii, 147.
from San Francisco (EAKLE and SCHALLER), A., ii, 213.
Day and **hour of meeting**, discussion on P., **1901**, 208, 235, 249, 251; **1902**, 1.
n-**Decaldehyde** (SCHIMMEL & Co.), A., i, 345.
Decane-ζθ-dione. See Acetylmethylheptanone.
Decenoic acid and its ethyl ester and amide (WALLACH and FRESENIUS), A., i, 800.
Decinyl alcohol, *tri*chloro- (*trichloromethyl-β-octinylcarbinol*) (MOUREU and DESMOTS), A., i, 289.
Decoic acid (*δ-methyl-α-isopropylhexoic acid*, isopropylisoamylacetic acid), and its amide, anilide, and chloride (NEF), A., i, 7.
Decoic acid, amino-, ethyl ester, action of methyl iodide on, and its ε-betaine and hydrochloride (WALLACH and KÖSCH), A., i, 724.
Decoic acid (*β-isopropylheptoic acid*), ε-amino-, and its esters, betaine and lactone (WALLACH and FRESENIUS), A., i, 725, 800.
Decomposition-tension of molten sodium hydroxide and of lead chloride (SACHER), A., ii, 120.
Decyl alcohol (*tripropylcarbinol*) (KONOWALOFF), A., i, 336.
αγ-Decylene glycol (*α-isobutyl-β-isopropyltrimethylene glycol*, *ε-methyl-β-isopropyl-αγ-hexylene glycol*) (NEF), A., i, 7; (ROSINGER), A., i, 526.
Dehydrocampholenolactone (BÉHAL), A., i, 419.
Dehydrocamphoric acid and its isomeride (BREDT, HOUBEN, and LEVY), A., i, 374.
Dehydrocamphylcarbinol (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 478.
Dehydrocorydaline (DOBBIE and LAUDER), T., 145; P., **1901**, 252.
Dehydromenthylcarbinol (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 477.
Dehydromucic acid. See Furfurandicarboxylic acid.
Dehydropyrodypnopinacolyl alcohol and its acetate (DELACRE), A., i, 775.
*iso***Dehydrothio-*m*-xylidine** (SCHULTZ and TICHOMIROFF), A., i, 401.
Delphinium Consolida, colouring matter of the flowers of (PERKIN and WILKINSON), T., 585; P., **1900**, 182.
Denitrification. See Agricultural Chemistry.

Density in relation to chemical constitution and composition; nitrogen compounds (KANONNIKOFF), A., ii, 244.
of liquids, pipette for determining the (GIRARDET), A., ii, 5.
of salts of borotungstic acid (KAHLBAUM, ROTH, and SIEDLER), A., ii, 260.
of cuprous iodide (SPRING), A., ii, 608.
of aqueous solutions of ferrous chloride (DUNN), A., ii, 400.
of mixtures of hydrazine and water (DITO), A., ii, 499.
of magnesium chloride solutions (BREMER), A., ii, 76.
of distilled metals (KAHLBAUM, ROTH, and SIEDLER), A., ii, 259.
of liquid oxygen, nitrogen, argon, and carbon monoxide, variation of, with temperature (BALY and DONNAN), T., 907; P., **1902**, 115.
of 3:5-*di*chloro-1:1-dimethyl-$\Delta^{2,4}$-dihydrobenzene (PERKIN), T., 828.
of *di*chloro-*o*-xylene (PERKIN), T., 1535.
of 1:1-demethyl-$\Delta^{2,4}$-dihydrobenzene (PERKIN), T., 836.
of fluid and solid magmas (DOELTER), A., ii, 332.
of volatile oils (SCHREINER and DOWNER), A., i, 108.
See also Vapour density.
Deoxybenzoin, preparation of (THIELE and STRAUS), A., i., 155; (STOBBE), A., i, 298.
isomeric additive compounds of, with benzylidene-*p*-toluidine, *m*-nitrobenzylideneaniline, and benzylidene-*m*-nitroaniline (FRANCIS), T., 441; P., **1902**, 57.
Deoxytrimethylbrazilone (PERKIN), T., 1018; (GILBODY and PERKIN), T., 1046.
Depolarisation. See Electrochemistry.
Desmotropism of β-methyl-β-butylene (*trimethylethylene*) $\beta\gamma$-nitrosite (SCHMIDT), A., i, 581; (HANTZSCH), A., i, 734.
in the pyridine series (ERRERA), A., i, 115.
Desmotroposantonin. See under Santonin.
Desmotropy of camphorquinonephenylhydrazone (LAPWORTH and HANN), T., 1508; P., **1902**, 143, 146.
between acetyl and hydroxyvinyl groups (WIDMAN), A., i, 374.
Desylacetic acid, lactones of (THIELE and STRAUS), A., i, 154.
Desylamine and its phenylhydrazone, and **Desylphenylcarbamide** (PSCHORR and BRÜGGEMANN), A., i, 684.
Desylcinnamic acid and its methyl ester, **Desyleneacetic acids**, α- and β-, and **Desylenemalonic acid**, ethyl ester (THIELE and STRAUS), A., i, 154.
Deweylite from New Jersey (CHESTER), A., ii, 611.
Dextrins, action of iodine and of other oxidisers in the hydrolysis of (HALE), A., i, 533.
Dextrose (d-*glucose*, *grape sugar*), from crocin and picrocrocin (KASTNER), A., i, 685.
of muscular origin (CADÉAC and MAIGNON), A., ii, 517.
magnetic rotation of (PERKIN), T., 188; P., **1901**, 256.
does, arise from cellulose in digestion? (LUSK), A., ii, 273.
isomeric acetyl halogen derivatives of (FISCHER and ARMSTRONG), A., i, 263.
subcutaneous injections of, and proteid metabolism (SCOTT), A., ii, 337.
test for, in urine (RIEGLER), A., ii, 585.
the copper and picric acid test for, in urine (LYONS), A., ii, 179.
nickel salts as a test for, in urine (DUYK), A., ii, 54.
osazone test for the detection of, in urine (ESCHBAUM), A., ii, 585.
the phenylhydrazine test for, in urine (LYONS), A., ii, 703.
clinical detection and estimation of, in urine (RUINI), A., ii, 233.
estimation of, by fermentation (LYONS), A., ii, 704.
estimation of, gravimetrically (LAUENSTEIN), A., ii, 179.
estimation of, by Soltsien's method (SCHUMANN), A., ii, 631.
estimation of, in urine and in organic liquids (REALE), A., ii, 234.
separation of, from galactose by *Saccharomyces Ludwigii* (THOMAS), A., ii, 344.
Dextrose-β-naphthylhydrazones, isomeric (ALBERDA VAN EKENSTEIN and DE BRUYN), A., i, 747.
Dextrosephenylmethylhydrazone (NEUBERG), A., i, 264.
Dextrose-ureide and its pentacetyl and tetrabenzoyl derivatives (SCHOORL), A., i, 83.
Dhurrin and **Dhurrinic acid** from *Sorghum vulgare* (DUNSTAN and HENRY), A., ii, 578.
Diabetes (*glycosuria*), colour reactions of red blood corpuscles in (LE GOFF), A., ii, 544.

Diabetes (*glycosuria*), of muscular origin (CADÉAC and MAIGNON), A., ii, 466.
elimination of chlorides and phosphates in experimental (LÉPINE and MALTET), A., ii, 678.
chromic acid (KÓSSA), A., ii, 219.
phloridzin (LUSK), A., ii, 162; (LOEWI), A., ii, 277.
in cats (ARTEAGA), A., ii, 38.
formation of phenol and indoxyl in, and their relation to glycuronic acid excretion (LEWIN), A., ii, 272; (MAYER), A., ii, 520.
suprarenal (BLUM), A., ii, 575.
Diacetanilide, transformation of, into acetyl-*p*-aminoacetophenone (CHATTAWAY), P., **1902**, 173.
Diacetanilide, 2:4:6-*tri*bromo-3-nitro- (ORTON), T., 503; P., **1902**, 73.
2:6:4-chlorobromonitro-, 2:3:4:6-*tetra*bromo-, and 2:4-*di*bromo-6-nitro- (ORTON), T., 497; P., **1902**, 59.
Diacetoneamino-oxime and its salts (KOHN), A., i, 349.
Diacetonitrile, preparation of, and cyano-ψ-lutidostyril derivatives from (MOIR), T., 100; P., **1901**, 69.
Diacetophenone-*p*-urazine (PURGOTTI and VIGANÒ), A., i, 322.
2:4′-Diacetoxybenzophenoneaniline hydrochloride (DIMROTH and ZOEPPRITZ), A., i, 293.
Diacetyl, preparation of, and its acetyl, phenylmethane, *p*-nitrophenylhydrazone, oxime and semicarbazone derivatives and its polymeride (DIELS and JOST), A., i, 744.
Diacetyl-acetylhydrazone and **-semicarbazone** (DIELS), A., i, 205.
3:5-Diacetylamino-9-anilino-phenazoxonium anhydride and **3:5-Diacetylamino-9-methoxyphenazoxonium** methosulphate (KEHRMANN and THOMAS), A., i, 567.
Diacetyl*di*aminobenzylidenephenylhydrazone (SACHS and KEMPF), A., i, 682.
3:5-Diacetylamino-9-methoxyphenazothionium methosulphate and dichromate (KEHRMANN and SCHILD), A., i, 570.
3:5-Diacetylamino-phenazothione and **-thiodiphenylamine** ferrichloride (KEHRMANN and SCHILD), A., i, 569.
3:5-Diacetylamino-phenoxazine, and **-phenazoxonium** bromide (KEHRMANN and THOMAS), A., i, 567.
4:6-Diacetyl*tri*bromocoumarin (TILDEN and BURROWS), T., 510; P., **1901**, 217.
γγ-Diacetylbutyric acid, ethyl ester (MARCH), A., i, 258.
γγ-Diacetylbutyric acid, methyl and ethyl esters, and their copper derivatives, and dioxime of the ethyl ester (MARCH), A., i, 707.
Diacetyldianisidide (PAWLEWSKI), A., i, 209.
Diacetyldisemicarbazone (POSNER), A., i, 82.
ββ-Diacetyl-α-methylpropionic acid, ethyl ester, and its copper derivative, disemicarbazone and dioxime (MARCH), A., i, 257, 706.
Diacetyl-β-naphthylhydrazoxime (PONZIO), A., i, 191.
Diacetylorthonitric acid (PICTET and GENEQUAND), A., i, 584.
Diacetylphenylhydrazonesemicarbazone (POSNER), A., i, 82.
Diacetylphenylmalonamide (CAMPS), A., i, 397.
4:6-Diacetyl-5-phenyl-3-methyl*cyclo*hexan-3-ol-1-one (RABE and ELZE), A., i, 711.
Diacetyl-*o*- and **-*p*-tolylhydrazoximes** (PONZIO), A., i, 190.
Di-β-alkyl*iso*butyl ketones, *di*thio- (POSNER), A., i, 298.
***as*-Dialkyl-*p*-phenylenediamines**, sulphonic and carboxylic acids of (KALLE & Co.), A., i, 398.
Di-β-alkylsulphone*iso*butyl ketones (POSNER), A., i, 298.
Dialkylthiourethanes, formation of, and their derivatives (DELÉPINE), A., i, 353.
Dialysis. See under Diffusion.
Diamines from phellandrene nitrites (WALLACH and BÖCKER), A., i, 725.
substituted, relative difference in basicity of the two amino-groups of (BÜLOW and LIST), A., i, 237.
aminobenzyl cyanides and iminobenzoyl cyanides from (SACHS and GOLDMANN), A., i, 781.
***m*-Diamines**, aromatic, influence of substitution on the reactivity of (MORGAN), T., 650; P., **1902**, 87.
tertiary, action of diazonium salts and of formaldehyde on (MORGAN), T., 656; P., **1902**, 87.
Diammonium compounds, cyclic (SCHOLTZ), A., i, 835.
Diamond crystals, formation of, from gas carbon (LUDWIG), A., ii, 70, 451.
Di-*p-iso*amylphenyliodonium salts (WILLGERODT and DAMMANN), A., i, 19.
ββ-Diamylsulphone-butane-γ-one, -γ-methylpentane-δ-one, and **-pentane-γ-** and **-δ-ones** (POSNER), A., i, 220.
ββ-Diamylthiolpentane-3-one (POSNER), A., i, 221.

Diamylthiolstilbene (POSNER), A., i, 220.
Dianilinomalonic acid, methyl ester and aniline salt (CONRAD and REINBACH), A., i, 211, 529.
3:4-Dianilino-β-naphthaphenazothionium anhydride (KEHRMANN, GRESSLY, and MISSLIN), A., i, 569.
3:9-Dianilinophenazothionium chloride (KEHRMANN and HERRMANN), A., i, 568.
and its acetyl derivative (AKTIENGESELLSCHAFT FÜR ANILINFABRIKATION), A., i, 496.
3:9-Dianilinophenazoxonium chloride and its anhydro-base (KEHRMANN and STAMPA), A., i, 567.
2:6-Dianilinopyridine-4-carboxylic acid and its methyl ester and anilide (BITTNER), A., i, 823.
Di-*o*-anisyldihydrazonecyanoacetic acid, methyl esters (FAVREL), A., i, 330.
Di-*o*-anisyldihydrazonemalonic acid, esters (FAVREL), A., i, 507.
Di-*o*-anisylethylenedisulphone (TRÖGER and BUDDE), A., i, 776.
Di-*o*-anisylguanidine, amino-, and its picrate (BUSCH and ULMER), A., i, 574.
Di-*o*- and **-*m*-anisylideneacetones** (v. BAEYER and VILLIGER), A., i, 770.
Di-*p*-anisylideneacetone, and its salts (v. BAEYER and VILLIGER), A., i, 381.
Dianisylphenylmethane (v. BAEYER and VILLIGER), A., i, 381.
Diaphragms, behaviour of, during electrolysis (HITTORF), A., ii, 59.
Diarylcarbamides, formation of, from arylhydroxylamines (BAMBERGER and DESTRAZ), A., i, 538.
Diastase, influence of carbon dioxide on the action of (MOHR), A., i, 410.
ungerminated barley, action of, on starch (BAKER), T., 1177; P., **1902**, 134.
malt, experiments with (LING and DAVIS), A., i, 732.
pancreatic, and its zymogen (VERNON), A., ii, 336.
influence of various reagents on the activity of (GRÜTZNER and WACHSMANN), A., ii, 614.
Diastases, new, in urine (POZZI-ESCOT), A., i, 655.
differences between (VERNON), A., i, 513.
source of error in the examination of (POZZI-ESCOT), A., i, 513.
Diazoacetamide and ***iso*Diazoacetamide** (SILBERRAD), T., 603; P., **1902**, 44.
ψ-Diazoacetamide. See Azoacetamide, imino-.
Diazo-*p*-acetaminobenzene chloride, rate of decomposition of (CAIN and NICOLL), T., 1436; P., **1902**, 186.
Diazoacetic acid, polymerisation products from (SILBERRAD), T., 598; P., **1902**, 44.
esters, action of, on phenylacetylene (BUCHNER and LEHMANN), A., i, 236.
Diazoamines, influence of substitution on the formation of (MORGAN), T., 86, 1376; P., **1901**, 236; **1902**, 185.
2-Diazoamino-1-chloronaphthalene (MORGAN), T., 98, 1381; P., **1901**, 237; **1902**, 185.
Diazoamino-compounds, transformation of, into aminoazo-compounds (CHATTAWAY), P., **1902**, 175.
Diazoaminotetrahydro-β-naphthalene (SMITH), T., 905; P., **1902**, 137.
Diazoaminotoluenes (MEHNER), A., i, 577.
α-Diazoanthraquinone, bromo- and chloro- (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 721.
1-Diazoanthraquinone-2-sulphonic anhydride (WACKER), A., i, 698.
Diazobenzene, action of, on acetoacetic acid and its ethyl ester, and on ethyl benzeneazoacetoacetate (BAMBERGER and WHEELWRIGHT), A., i, 406.
chloride, and *o*-, *m*-, and *p*-nitro-, rates of decomposition of (CAIN and NICOLL), T., 1415; P., **1902**, 186.
hydroxide, *p*-nitro-, action of sulphur dioxide on (EKBOM), A., i, 327.
Diazobenzene-*p*-sulphonic acid, rate of decomposition of (CAIN and NICOLL), T., 1429; P., **1902**, 186.
Diazo-2:6-*di*bromoanisoles, potassium salts, *anti-* and *syn-* (HANTZSCH and POHL), A., i, 843.
Diazo-chlorides, action of ethyl β-chloroacetoacetate on (FAVREL), A., i, 644.
Diazo-compounds, rate of decomposition of (CAIN and NICOLL), T., 1412; P., **1902**, 186, 244.
action of, on the esters of 2-acyl-1:3-ketonic acids (BÜLOW and HAILER), A., i, 325.
action of hypophosphorous acid on (MAI), A., i, 245.
new decompositions of (BIEHRINGER and BUSCH), A., i, 575.
coupling of, with toluidines (MEHNER), A., i, 576.
quinonoid, and the so-called triazolens (HANTZSCH), A., i, 324.
Diazogallic acid, ethyl ester (POWER and SHEDDEN), T., 77; P., **1901**, 242.

Diazo-group, replacement of the, by amidogen (WACKER), A., i, 698.
*anti***Diazo-hydrates**, isomerism of, with primary nitrosoamines (HANTZSCH and POHL), A., i, 842.
2-Diazonaphthalene-8-sulphonic anhydride, 6-nitro- (JACCHIA), A., i, 717.
Diazo*iso*nitrosomethyluracil and its reduction (WOLLERS and BEHREND), A., i, 843.
Diazonium (*benzendiazonium*) chlorides, action of, on acetylacetone and its substituted derivatives (FAVREL), A., i, 507.
action of acylcyanoacetic esters on (FAVREL), A., i, 406.
action of, on alkylacetylacetones (FAVREL), A., i, 508.
action of cyanoacetic esters and their derivatives on (FAVREL), A., i, 329.
action of, on malonic esters (FAVREL), A., i, 506.
action of, on substituted malonic esters (FAVREL), A., i, 507.
action of, on methylenedi-2-hydroxy-3-naphthoic acid (STROHBACH), A., i, 161.
cyanide, solid (EULER and HANTZSCH), A., i, 191.
salts, action of, on aromatic amines (MORGAN), T., 86, 1376; P., **1901**, 236; **1902**, 185.
action of, on *tert.m*-diamines (MORGAN), T., 656; P., **1902**, 87.
decomposition of (HANTZSCH), A., i, 329.
decomposition of, by alcohol (HANTZSCH and JOCHEM), A., i, 62.
aromatic, action of ammoniacal cuprous oxide on (VORLÄNDER and MEYER), A., i, 328.
Diazo-salts, action of, on desmotropo-santonin and -santonous acid (WEDEKIND and SCHMIDT), A., i, 699.
Diazothiosulphonates, supposed isomerism of (DYBOWSKI and HANTZSCH), A., i, 249.
Diazotisation of 2:3-*di*nitro-*p*-anisidine (MELDOLA and EYRE), T., 988; P., **1902**, 160.
Diazotoluene chlorides, *o*-, *m*-, and *p*-, rate of decomposition of (CAIN and NICOLL), T., 1422; P., **1902**, 186.
Dibenzenesulphonimide (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 364.
Dibenzophenone-*p*-urazine (PURGOTTI and VIGANÒ), A., i, 322.
Dibenzoyl-*p*-aminodiphenylamine (BIEHRINGER and BUSCH), A., i, 575.
Dibenzoylamylhydrazine (STOLLÉ), A., i, 57.
Dibenzoyl*iso*butylhydrazine (STOLLÉ), A., i, 57.
Dibenzoyldiacetyltetraoxydiphenanthryl (WERNER), A., i, 629.
Dibenzoyldianthranilylmethane (HELLER and FIESSELMANN), A., i, 780.
Dibenzoyldiphenyline (BIEHRINGER and BUSCH), A., i, 575.
Dibenzoylethylenes, *cis*- and *trans*- (PAAL and SCHULZE), A., i, 228.
Dibenzoylhydrazobenzene and its isomerides (BIEHRINGER and BUSCH), A., i, 575; (FREUNDLER), A., i, 697.
Dibenzoyl-*o*- and -*p*-hydrazotoluene, and the isomeride of the ortho-compound (BIEHRINGER and BUSCH), A., i, 576.
Dibenzoyliminothiobenzyl ethylene ether (WHEELER and BEARDSLEY), A., i, 502.
Dibenzoylmesitylene, preparation of, and its derivatives (MILLS and EASTERFIELD), T., 1315; P., **1902**, 167.
Dibenzoylmesitylenic acids, *s*- and *as*-, and their salts, oxidation, and rates of esterification (MILLS and EASTERFIELD), T., 1317; P., **1902**, 167.
Dibenzoyl nitrogen chloride (CHATTAWAY), P., **1902**, 165.
Dibenzoyloxydiphenanthronylene (WERNER), A., i, 629.
2:5-Dibenzoyloxyquinone (KNOEVENAGEL and BÜCKEL), A., i, 106.
Dibenzoyltartaric acid, di-*sec.*octyl ester (MCCRAE), T., 1221; P., **1902**, 182.
Dibenzoyl-*o*-tolidine (BIEHRINGER and BUSCH), A., i, 576.
Dibenzoyltrimesic acid and its salts (MILLS and EASTERFIELD), T., 1322; P., **1902**, 168.
Dibenzoyluvitic acids, *s*- and *as*-, and their salts (MILLS and EASTERFIELD), T., 1321; P., **1902**, 167.
Dibenzyl *mono*- and *di*-sulphides, *m*-*di*cyano- (EHRLICH), A., i, 25.
Dibenzylacetone -dialkylsulphones and -*di*thiolphenyl (POSNER), A., i, 298.
Dibenzylallylamine and its salts (v. BRAUN and SCHWARZ), A., i, 365.
Dibenzylamine, *di*-*m*-cyano-, and its salts (EHRLICH), A., i, 25.
5:10-Dibenzylanthracene and bromo- (LIPPMANN and POLLAK), A., i, 754.
Dibenzylhydrazine, *as*-*o*-*di*amino-, and its hydrochloride and triacetyl derivative (ULMER), A., i, 503.
Dibenzylideneacetone (v. BAEYER and VILLIGER), A., i, 769.

Dibenzylideneacetone, halochromy of (v. BAEYER and VILLIGER), A., i, 380.
methoxyl derivatives, basicity of (v. BAEYER and VILLIGER), A., i, 770.
Dibenzylideneacetone-acetoacetic acid, ethyl ester (KNOEVENAGEL and SPEYER), A., i, 227.
Dibenzylidenelævulic acid (m. p. 177–178°) (THIELE, TISCHBEIN, and LOSSOW), A., i, 155.
Dibenzyl ketone, isomeric additive compounds of, with benzylidene-*p*-toluidine, *m*-nitrobenzylideneaniline, and benzylidene-*m*-nitroaniline (FRANCIS), T., 441; P., **1902**, 53.
Dibenzylmesitylene (MILLS and EASTERFIELD), T., 1323.
Dibenzylmethyl*cyclo***hexanone** (TÉTRY), A., i, 470.
Dibenzyl methyl ketone and its oxime (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.
ββ-Dibenzylsulphone-γ-methylpentane-δ-one, and **-pentane-γ-** and **-δ-ones** (POSNER), A., i, 221.
Dibenzylthiolstilbene (POSNER), A., i, 220.
Dibromides, $C_nH_{2n}Br_2$, action of ethyl sodiomalonate on (IPATIEFF), A., i, 588.
Di-*sec.***butyl** (*dimethyl-γδ-hexane*). See Octane.
Dibutyl alcohol. See Octyl alcohol.
Di*iso***butyl ketone**, and its oxime and semicarbazone (NEF), A., i, 7.
Di-*p-tert.***butylphenyliodonium** hydroxide and salts and their iodo-derivative (WILLGERODT and RAMPACHER), A., i, 18.
Dibutyranilide, **α-***di*thio-, and its copper derivative (BECKURTS and FRERICHS), A., i, 765.
Dibutyrolactone, *tri*thio-, and its derivatives (WEIGERT), A., i, 10.
Di-*n***-** and **-***iso***-butyryl** and their dioximes (PONZIO), A., i, 134.
Dicamphylthiocarbamide (v. BRAUN and RUMPF), A., i, 275.
Dicarbanilinocarbanilinodixylylmethylenediamine (SENIER and GOODWIN), T., 285; P., **1902**, 12.
Dicarbanilinodiphenylmethylenediamine (SENIER and GOODWIN), T., 283; P., **1902**, 12.
Dicarboxyaconitic acid (*propylenepentacarboxylic acid*), *iso*imino-, ethyl ester (ERRERA and PERCIABOSCO), A., i, 116.
***m*-Dicarboxybenzyl** *mono-* and *di*-sulphide (EHRLICH), A., i, 25.
Dicarboxyglutaconic acid (*propylenetetracarboxylic acid*), ethyl ester, action of ethyl chloroacetate on (GUTHZEIT and JAHN), A., i, 658.
action of halogen-substituted esters of fatty acids on (GUTHZEIT and ENGELMANN), A., i, 742.
Dicarboxyglutaric acid (*propanetetracarboxylic acid*), ethyl ester, action of amino-bases on (GUTHZEIT and JAHN), A., i, 658.
action of halogen-substituted esters of fatty acids on (GUTHZEIT and ENGELMANN), A., i, 743.
Dicarboxyphenylarsenic acid (MICHAELIS and SEEMAN), A., i, 416.
3:5-Dicarboxypyrrole-2:4-diacetic acid and its ethyl ester (FEIST), A., i, 489.
Dichromic acid. See under Chromium.
Dichrysarobin and its methyl ether, and their acetyl compounds (JOWETT and POTTER), T., 1580; P., **1902**, 192.
Di-ψ-cumylethylenedisulphone (TRÖGER and BUDDE), A., i, 775.
Di-ψ-cumylformamidine and its hydrochloride, and reaction with ethyl cyanoacetate (DAINS), A., i, 602.
Didehydrocampholene (BÉHAL), A., i, 419.
Dielectric constants. See Electrochemistry.
Dielytra spectabilis (GADAMER), A., i, 52.
Diet and metabolism (GOODBODY, BARDSWELL, and CHAPMAN), A., ii, 513.
1:3-Diethoxybenzene, **4:6-***di***nitro-** (BLANKSMA and MEERUM TERWOGT), A., i, 715.
3:4-Diethoxybenzylidene-*m*-nitroacetophenone (RUPE and WASSERZUG), A., i, 40.
2:4-Diethoxy-3′:5′-dimethoxybenzoylacetophenone (v. KOSTANECKI and WEINSTOCK), A., i, 816.
Diethoxydimethyl ether (COOPS), A., i, 77.
Diethoxyhydrindone, bromo- and chloro- (GLAWE), A., i, 782.
Diethyl chlorocarbonate, ***di-αββδ-tetra-*** chloro- (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 78.
Diethylaminoacetic acid, methyl ester, and its salts (WILLSTÄTTER), A., i, 267.
Diethylaminoacetonitrile and its salts (KLAGES), A., i, 355.
3-Diethylaminoacridine, synthesis of (ULLMANN and BAEZNER), A., i, 694.
α-Diethylaminopropiononitrile and its salts (KLAGES), A., i, 355.
3:4-Diethyl*di***aminotoluene** and its hydrochloride (FISCHER, RIGAUD, and BECKER), A., i, 401.

Diethylaniline, *p*-nitroso-, condensation of, with 1-phenyl-3-methylpyrazolone (SACHS and BARSCHALL), A., i, 503.
Diethylarsinibenzoic acid, *p*-thio-, and *p*-**Diethylarsinobenzoic acid** and its salts (MICHAELIS and EPPENSTEIN), A., i, 414.
Diethylcarbinol. See Amyl alcohol.
Diethyl diketone (*dipropionyl*) and its dioxime (PONZIO), A., i, 134.
3:3′-Diethyldiphenyl, 4:4′-*di*amino-, and its isomeride, and their benzylidene derivatives, dihydrochlorides, and picrates, and dyes from their diazotisation (SCHULTZ and FLACHSLÄNDER), A., i, 751.
Diethylene*di*aminechromium salts, *di*thiocyano- (PFEIFFER), A., i, 138.
s-aa-**Diethylglutaric acid** (*heptanedicarboxylic acid*) (REFORMATSKY), A., i, 588.
Diethylglycollic acid, ethyl ester, phenylurethane of (LAMBLING), A., i, 756.
Diethylindole, preparation of, from ethylpyrrole (DENNSTEDT), A., i, 396.
Diethylmalonamide (FISCHER and DILTHEY), A., i, 270.
Diethyl-β-naphthylamine and its salts (REYCHLER), A., i, 757.
Diethyl-α-naphthylamine-5-sulphonic acid (FUSSGANGER), A., i, 280.
Diethyloxanilide (LAMBLING), A., i, 756.
Diethylthiolstilbene (POSNER), A., i, 220.
Diethyl-*o*-toluidine, 4-amino- and 4-nitro- (ULLMANN, ROZENBAND, MÜHLHAUSER, and GRETHER), A., i, 241; (MÖHLAU, KLIMMER, and KAHL), A., i, 839.
Diethyl-*o*-toluidine-4-sulphonic acid and its potassium salt (MÖHLAU, KLIMMER, and KAHL), A., i, 839.
Diffusion, study of (THOVERT), A., ii, 599.
application of optical observations to the study of (THOVERT), A., ii, 197, 384.
of hydrogen through platinum (WINKELMANN), A., ii, 552.
retrograde, of electrolytes (THOVERT), A., ii, 445.
Dialysis experiments with metallic hydroxides and sulphides (HERZ), A., ii, 608.
Osmotic exchanges (NATHANSOHN), A., ii, 280.
pressure, equation for, in concentrated solution (WIND), A., ii, 62.
high, preparation of cells for the measurement of (MORSE and FRAZER), A., ii, 553.
Diffusion:—
Osmotic pressure of some solutions calculated from the E.M.F. of concentration elements (GODLEWSKI), A., ii, 445.
of the blood in crayfish (FREDERICQ), A., ii, 151.
of dog's submaxillary saliva (NOLF), A., ii, 152.
properties of colloidal solutions (MOORE and PARKER), A., ii, 413.
Diformal tartrate. See Dimethylene tartrate.
Difurfurylcarbamide (CURTIUS and LEIMBACH), A., i, 302.
Digestibility of food in the stomach (FERMI), A., ii, 216.
comparative, of human milk and its substitutes (TUNNICLIFFE), A., ii, 673.
Digestion, does dextrose arise from cellulose in? (LUSK), A., ii, 273.
in the small intestine (KUTSCHER and SEEMANN), A., ii, 335, 571.
duodenal, of proteid (FERRAI), A., ii, 412.
gastric (KRÜGER), A., ii, 33.
toxic substance produced by (CASSART and SAUX), A., ii, 216.
the end products of (LANGSTEIN), A., ii, 515.
in new-born dogs (GMELIN), A., ii, 571.
pancreatic, influence of the spleen on (MENDEL and RETTGER), A., ii, 615.
occurrence of *p*-hydroxyphenylethylamine in (EMERSON), A., ii, 271.
peptic (ZUNZ), A., ii, 672.
artificial, in the presence of alcohol (THIBAULT), A., i, 411.
end products of (LANGSTEIN), A., ii, 272.
of fibrin (PICK), A., ii, 673.
proteid, and bile (ROSENBERG), A., ii, 216.
in Octopods (COHNHEIM), A., ii, 572.
tryptic, influence of hydroxides of barium, calcium, and strontium on (DIETZE), A., ii, 272.
product of (HOPKINS and COLE), A., i, 193.
of sucrose (WIDDICOMBE), A., ii, 335.
Digitalinum germanicum, extraction of the valuable constituents of (KILIANI), A., i, 46.
Digitic acid and **Digitoic acid** and its oxime (KILIANI and MERK), A., i, 47.
Digitoflavone, identity of, with luteolin (KILIANI and MAYER), A., i, 47.
Digitogenic acid and its acetyl derivative and oximes, and **Digitogenin** (KILIANI and MERK), A., i, 46.

Digitonin (KILIANI; KILIANI and MERK), A., i, 46.
Diglyceryl triphthalate (SMITH), A., i, 159.
Diglycollanilide, thio- (BECKURTS and FRERICHS), A., i, 764.
Diheptyl alcohol, constitution of (GUERBET), A., i, 335.
Di*cyclo*hexyl (KURSANOFF), A., i, 360.
Dihydroæsculetin (LIEBERMANN and LINDENBAUM), A., i, 785.
Dihydroberberine (GADAMER), A., i, 556.
Dihydrobrazilic acid and its lactone (PERKIN), T., 221; P., **1901**, 258.
Dihydrobrazilinic acid and *di*nitro-, lactones of (PERKIN), T., 1038; P., **1901**, 258.
Dihydrocampholene, α-amino-, and its salts, carbamide, and ureide (BLAISE and BLANC), A., i, 300.
α-Dihydrocampholenic acid and its bromo-derivative (BLAISE and BLANC), A., i, 300.
Dihydro-α-campholytic acid, constitution of (NOYES and PATTERSON), A., i, 590.
***i*-Dihydrocampholytic acid** and its amino-derivative (NOYES and PATTERSON), A., i, 590.
Dihydrocamphoric acid, identity of, with α-methyl-δ-*iso*propyladipic acid (MARTINE), A., i, 629.
Dihydrocarbostyril-4-acetic acid and 7-nitro-, and their methyl esters and salts (SCHROETER and MEERWEIN), A., i, 545.
Dihydrocarvylxanthamides (TSCHUGAEFF), A., i, 630.
Dihydrocopazoline and its salts (GABRIEL and COLMAN), A., i, 841.
Dihydrocornicularic acid and its unsaturated lactones (THIELE and STRAUS), A., i, 158.
Dihydrofencholenic acid, and its amide, lactam and nitrile (MAHLA), A., i, 107.
Dihydrohæmatoxylinic acid, lactone of, and its salts (PERKIN and YATES), T., 244.
Dihydrolaurolactone (BREDT, HOUBEN, and LEVY), A., i, 375.
Dihydrolutidinedicarboxylic acid, isomeric esters, constitution of (KNOEVENAGEL and FUCHS), A., i, 565.
Dihydro-2-lutidone-3:5-dicarboxylic acid, ethyl ester (KNOEVENAGEL and BRUNSWIG), A., i, 641.
$\Delta^{1:5}$-Dihydromesitylene (WALLACH and BÖTTICHER), A., i, 798.
Dihydro-$\beta_1\beta_2$-naphthaphenazine, *lin-* (HINSBERG), A., i, 238.
Dihydronaphthazines, *lin-*, and *lin-ang-* (HINSBERG), A., i, 239.
Dihydrophenanthrene, nitro- (SCHMIDT), A., i, 715.
Dihydro*iso*phorone. See 3:5:5-Trimethyl-*cyclo*hexanone.
Dihydro*iso*phoryl glycols (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 299.
Dihydropulegenone and its oxime and semicarbazone (WALLACH and THEDE), A., i, 724.
Dihydroresorcins, action of phosphorus haloids on (CROSSLEY and LE SUEUR), P., **1902**, 238.
***s*-*N*-Dihydrotetrazinedicarboxylamide** (SILBERRAD), T., 605; P., **1902**, 44.
$\Delta^{1:3}$-Dihydrotoluene, oxidation of (HARRIES), A., i, 361, 378.
$\Delta^{1:5}$-Dihydro-*m*-tolylacetic acid and its ethyl ester, silver salt, and amide (WALLACH and BÖTTICHER), A., i, 798.
Dihydroxyacetonephenylmethylosazone (NEUBERG), A., i, 264.
Dihydroxyanthranol and its triacetate (SCHROBSDORFF), A., i, 773.
Dihydroxyanthranols, 1:4- and 1:5-, and their triacetates (PLEUS), A., i, 773.
2:3-Dihydroxyanthraquinone. See Hystazarin.
4:4′-Dihydroxybenziloxazones, 3:3′-*di*- and 3:5:3′:5′-*tetra*-bromo-, 3:5:3′:5′-*tetra*iodo-, and 3:3′-*di*nitro- and their acetates (BILTZ and AMME), A., i, 468.
Dihydroxybenzylideneaniline (DIMROTH and ZOEPPRITZ), A., i, 294.
2:4-Dihydroxybenzylidenemalononitrile (WALTER), A., i, 373.
3:4-Dihydroxybenzylidene-*m*-nitroacetophenone and its diacetyl derivative (RUPE and WASSERZUG), A., i, 40.
Dihydroxybutyloxamide (TORDOIR), A., i, 265.
Dihydroxycampholenolactone (BÉHAL), A., i, 419.
5:7-Dihydroxychromone (v. KOSTANECKI and DE RUIJTER DE WILDT), A., i, 303.
2:6-Dihydroxycinchomeronic acid, ethyl ester (ERRERA and PERCIABOSCO), A., i, 116; (RUHEMANN), A., i, 178.
Dihydroxydibenzylmesitylene (MILLS and EASTERFIELD), T., 1323.
2:2′-Dihydroxydiphenyl. See 2:2′-Diphenol.
Dihydroxy-2:4-diphenyl-1:4-benzopyranols, 5:7-, 6:7-, and 7:8-, and their salts and triacetyl derivatives (BÜLOW and v. SICHERER), A., i, 112.
2:4′-Dihydroxydiphenylmethane and its diacetyl and dibenzoyl derivatives and dimethyl and diethyl ethers (WAGNER), A., i, 448.

Di-*p*-hydroxydiphenyl-*m*-phenylenediamine, 4-chloro-2:6-*di*nitro- (BADISCHE ANILIN- & SODA-FABRIK), A., i, 497.

2:2′-Dihydroxydiphenyl-5:5′-di- and **-3:3′:5:5′-tetra-sulphonic acids** and their salts (DIELS and BIBERGEIL), A., i, 220.

Dihydroxy-eosins and **-fluoresceins** (LIEBERMANN and WÖLBLING), A., i, 546.

Dihydroxyhexane, *di*bromo- (DUDEN and LEMME), A., i, 337.
See also β-Methylpentane-βδ-diol.

3:4-Dihydroxyhydratropic acid (BOUGAULT), A., i, 453.

1:5-Dihydroxyhydroanthranol and its triacetate (PLEUS), A., i, 773.

1:1′-Dihydroxy-6:6′-ketoethylenedinaphthylamine-3:3′-disulphonic acid (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 398.

Dihydro-*m*-xylene and its oxidation (HARRIES), A., i, 361.

Dihydroxylodiaquodipyridinechromium salts. See under Chromium.

4:7-Dihydroxy-6-methoxydihydroquinaldine-5-carboxylic acid (BOOK), A., i, 465.

Dihydroxymethoxymethylanthraquinone. See Methylnataloe-emodin.

Dihydroxymethoxymethylbenzene, and its compound with diazoaminobenzene (BOEHM), A., i, 37.

Dihydroxymethyl*tert.*butylallylcarbinol, action of sulphuric acid on (PETSCHNIKOFF), A., i, 338.

γδ-Dihydroxy-γ-methyl-γ-ethylpyrotartaric acid (STOBBE, STRIGEL, and MEYER), A., i, 461.

Dihydroxymethylheptanone (HARRIES), A., i, 345.

Dihydroxymethyl*cyclo*hexanone (HARRIES), A., i, 361, 378.
and its phenylhydrazone and semicarbazone (HARRIES), A., i, 378.

Dihydroxymethylxanthine, *di*nitro- (BORSCHE), A., i, 836.

1:8-Dihydroxynaphthaketones and their diacetyl derivatives (LANGE), A., i, 381.

2:3-Dihydroxynaphthalene and its methyl and ethyl ethers, 1-*mono*- and 1:4-*di*amino-, and **-6:8-disulphonic acid** (FRIEDLÄNDER and SILBERSTERN), A., i, 793.

2:8-Dihydroxynaphthalene-3:6-disulphonic acid (FRIEDLÄNDER and SILBERSTERN), A., i, 794.

Dihydroxynonane (GRIGNARD), A., i, 421.

9:10-Dihydroxyphenanthrene, and its diacetate (PSCHORR and SCHRÖTER), A., i, 672.

9:10-Dihydroxyphenanthrene, and its nitro-derivatives and their acetates and benzoates (SCHMIDT and KÄMPF), A., i, 797.

Di-9-hydroxyphenanthryl-10-amine (SCHMIDT), A., i, 757.

Dihydroxyphenoxide, *di*nitro-, and its salts (HILLYER), A., i, 50.

Dihydroxy-2-phenyl-1:4-benzopyranols, 5:7- and 7:8-, and their salts (BÜLOW and v. SICHERER), A., i, 114.

αβ-Dihydroxy-α-phenyl-γ-benzylbutyrolactone and its diacetyl derivative (THIELE and STRAUS), A., i, 158.

Dihydroxy-2-phenyl-4-benzylidene-1:4-benzopyranols, 5:7-, 6:7-, and 7:8-, and their hydrochlorides, picrates, and acyl derivatives (BÜLOW and GROTOWSKY), A., i, 554.

Di-3- and **-*o*-hydroxy-2-phenylquinoxaline,** 6-(or 7-)chloro-, and its **-sulphonic acid** (v. KORCZYNSKI and MARCHLEWSKI), A., i, 647.

Dihydroxy*iso*propylhypophosphorous acid and its salts, esters, and diacyl derivatives (MARIE), A., i, 71.

2-αδ-Dihydroxy*iso*propylquinoline, 3-chloro-, and its salts (KOENIGS and STOCKHAUSEN), A., i, 693.

2:6-Dihydroxypyridine-3:4-dicarboxylic acid. See Dihydroxycinchomeronic acid.

2:6-Dihydroxypyridine-3:4:5-tricarboxylic acid, ethyl ester (ERRERA and PERCIABOSCO), A., i, 116.

2:4-Dihydroxyquinoline (CAMPS), A., i, 178.

Dihydroxyvalerolactone and its diacetyl derivative (THIELE, TISCHBEIN, and LOSSOW), A., i, 156.

Di-indigotin (MOIR), P., **1902,** 194.

Diindoxylic anhydride, and its β-naphthyl and *p*-tolyl derivatives (CONRAD and REINBACH), A., i, 211.

2:4-Diketo-5- and **-3:5-diphenyltetrahydrothioazole** (WHEELER and JOHNSON), A., i, 761.

***p*-Diketohexahydrotetrazine.** See *p*-Urazine.

***o*-Diketomethyl*cyclo*hexane** and its phenylhydrazones and semicarbazones (HARRIES), A., i, 378.

Diketones, action of organo-magnesium compounds on (ZELINSKY), A., i, 593.
action of mercaptans on (POSNER), A., i, 220.
condensation reactions of (POSNER), A., i, 82.

α-Diketones, formation of, from ketones (PONZIO and BORELLI), A., i, 659.
fatty, preparation of (PONZIO), A., i, 134.

αβ-Diketones, action of phenylhydrazine on (SMITH and MCCOY), A., i, 645.

β-Diketones (LESER), A., i, 261.
synthesis of (MOUREU and DELANGE), A., i, 164, 253.

δ-(1:5-)Diketones (RABE and ELZE), A., i, 709.

1:2-Diketopentamethylene and its halogen, benzoyl, phenazine, and phenylurethane derivatives (DIECKMANN), A., i, 786.

1:2-Diketopentamethylene-3:5-dicarboxylic acid, ethyl ester, and its metallic derivatives, anilide, osazone, and phenazine (DIECKMANN), A., i, 786.

3:5-Diketo-2-phenyltetrahydrothiazole (WHEELER), A., i, 28.

2:6-Diketo-4-*iso*propylhexamethylene. See 4-*iso*Propyldihydroresorcin.

Dilactanilide, α-*di*thio-, and its copper derivatives (BECKURTS and FRERICHS), A., i, 764.

Dilatometer for the determination of volume and density changes (WENZEL), A., ii, 125.

Dilution law. See Affinity.

Dimenthylthiocarbamide (v. BRAUN and RUMPF), A., i, 275.

1¹:1⁴-Dimetho-1¹-pentenylbenzene. See β-Phenyl-β-*iso*heptylene.

Dimethoxyanhydroglycogallol (PERKIN and WILSON), P., **1902**, 215.

1:3-Dimethoxybenzene, 4:6-*di*nitro- (BLANKSMA and MEERUM TERWOGT), A., i, 715.

Dimethoxybenzoylpropionic acid and its synthesis (PERKIN), T., 233; P., **1901**, 258.

5:7-Dimethoxychromone and its **-2-carboxylic acid** (v. KOSTANECKI and DE RUIJTER DE WILDT), A., i, 303.

4:6-Dimethoxycoumaric acid, disodium and disilver salts (TILDEN and BURROWS), T., 511; P., **1901**, 217.

4:6-Dimethoxycoumarilic acid, bromo-, and its potassium salt and methyl ester (TILDEN and BURROWS), T., 509; P., **1901**, 217.

αβ-Dimethoxydihydro*iso*eugenol, bromo-, and its benzoyl derivative (AUWERS and MÜLLER), A., i, 212.

2:4-Dimethoxydimethyl-3-methyl- and **-5-bromomethyl-1-phenol**, 3:6-*di*bromo- (AUWERS and ANSELMINO), A., i, 215.

3:4-Dimethoxyhydratropaldehyde, and its oxime (BOUGAULT), A., i, 453.

3:4-Dimethoxyhydratropic acid and its salts (BOUGAULT), A., i, 453.

Dimethoxyhydrindone, bromo- and chloro- (GLAWE), A., i, 782.

3:5-Dimethoxy-2-methylcarbonyl-6-aminophenol (POLLAK and SOLOMONICA), A., i, 149.

4:6-Dimethoxy-α-methylcoumarin and its β-bromo- and β-hydroxy-derivatives (TILDEN and BURROWS), T., 511; P., **1901**, 217.

Dimethoxymethylenedioxyacetophenone (BOUGAULT), A., i, 453.

Dimethoxymethylenedioxy-hydratropaldehyde and **-hydratropic acid** (BOUGAULT), A., i, 453.

2:7-Dimethoxynaphthalene, halochromy of (KAUFFMANN), A., i, 368.

Dimethoxyphenoxide, *di*nitro- (HILLYER), A., i, 50.

Dimethoxy-2-phenyl-4-benzylidene-1:4-benzopyranols, 5:7- and 7:8- (BÜLOW and GROTOWSKY), A., i, 554.

Dimethylacetoacetic acid, methyl ester, action of nitric acid on (PERKIN), P., **1901**, 204.

Dimethylacetonylacetone-phenylhydrazone and **-semicarbazone** (POSNER), A., i, 83.

3:7-Dimethylacridine, 2:8-*di*amino-, and its diacetyl derivative (ULLMANN and MARIĆ), A., i, 182.

Dimethylacrylic acid. See Pentenoic acid.

ββ-Dimethyladipic acid (*hexanedicarboxylic acid*), and its silver salt (WALLACH and SCHEUNERT), A., i, 806.

Dimethylaminoacetic acid, esters, and their alkyliodides and aurichlorides (WILLSTÄTTER), A., i, 267.

***m*-Dimethylaminoacetophenone** and its salts and oxime (RUPE, BRAUN, and v. ZEMBRUSKI), A., i, 40.

***p*-Dimethylaminoacetophenone**, *o*-amino- and *o*-nitro-, and salts and acetyl derivative of the amino-compound (RUPE, BRAUN, and v. ZEMBRUSKI), A., i, 40.

Dimethylaminobenzaldehyde, condensation of, with β-naphthol (HEWITT, TURNER, and BRADLEY), T., 1207; P., **1902**, 181.

***p*-Dimethylaminobenzaldehyde**, action of, on urine (CLEMENS), A., ii, 296.

***p*-Dimethylaminobenzylidene-*m*-amino-** and **-*m*-nitro-acetophenones** (RUPE and WASSERZUG), A., i, 40.

***p*-Dimethylaminobenzylidenemalononitrile** (WALTER), A., i, 373.

***p*-Dimethylaminobenzylidene-*p*-nitroaniline**, and ***p*-Dimethylaminobenzylidene-*p*-aminobenzenesulphonic acid** (GUYOT and GRANDERYE), A., i, 398.

γ-Dimethylaminobutyric acid, methyl ester, and its salts (WILLSTÄTTER), A., i 268.

Dimethylaminodimethylacetal (Willstätter), A., i, 267.

Dimethyl-*p*-*di*aminodiphenylamine (Gnehm, Bots, and Weber), A., i, 831.

***s*-Dimethyl*di*aminodi-*o*-tolyl ketone** and **thioketone** and hydrols from (Gnehm and Wright), A., i, 295.

Dimethyl*di*aminohexene and its salts and phenylthiocarbamide (Duden and Lemme), A., i, 337.

Dimethyl-*p*-amino-*m*- and **-*p*-hydroxydiphenylamines** and their diacetyl and dibenzoyl derivatives (Gnehm, Bots, and Weber), A., i, 831.

2-Dimethylamino-12-methylpheno-1:2-naphthacridinium salts (Ullmann and Marić), A., i, 183.

3′-Dimethylaminopheno-3-aminoxylazines (Nölting and Thesmar), A., i, 314.

2-Dimethylaminopheno-1:2-naphthacridine and its leuco-base and salts (Ullmann and Marić), A., i, 183.

***as*-Dimethyl*di*amino-phenotolazo- and -tolonaphthazo-oxonium chlorides** (Möhlau, Klimmer, and Kahl), A., i, 840.

Dimethylaminophenylarsenic acid (Michaelis and Bruder), A., i, 412.

***p*-Dimethylaminophenylmercury** acetate (Dimroth), A., i, 656; (Pesci), A., i, 849.

***β*-Dimethylaminopropionic acid**, methyl ester and its salts (Willstätter), A., i, 268.

3:6-Dimethylaminothymoquinone (Böters), A., i, 475.

Dimethylaminotolaminonaphthazo-oxonium hydride (Möhlau, Klimmer, and Kahl), A., i, 840.

3:4-Dimethyl*di*aminotoluene and its compounds with benzaldehyde and salicylaldehyde (Fischer, Rigaud, and Becker), A., i, 400.

***o*-Dimethylamino-*p*-tolylarsenic** compounds (Michaelis and Eppenstein), A., i, 415.

Dimethyl*iso*amylcarbinol. See Octyl alcohol.

Dimethylaniline, compounds of with antimony haloids (Rosenheim and Stellmann), A., i, 68.

action of thallic chloride on (Renz), A., i, 823.

oxide (Bamberger and Rudolf), A., i, 364.

Dimethylaniline, *p*-nitroso-, action of ethylene dibromide on, and its salts (Torrey), A., i, 755.

condensation of, with 1-phenyl-3-methylpyrazolone (Sachs and Barschall), A., i, 504.

Dimethylaniline-6-carboxylic acid, 4-amino- and **Dimethylaniline-6-sulphonic acid**, 4-amino- and 4-nitro-, (Kalle & Co.), A., i, 398.

3:3′-Dimethylazobenzene, 4-amino- (Mehner), A., i, 577.

1:5-Dimethylbenziminoazole (Pinnow), A., i, 671.

1:6-Dimethylbenziminoazole, 3-methiodide and 3-methochloride (Fischer, Rigaud, and Becker), A., i, 400.

4:6-Dimethylbenziminoazole and its salts (Fischer, Rigaud, and Kopp), A., i, 189.

Dimethyl*di*bromoethylacetic acid (*hexoic acid*, di*bromo*-) (Perkin), T., 257.

ββ-Dimethylbutane. See Hexane.

αα-Dimethylbutane-αβδ-tricarboxylic acid (*hexanetricarboxylic acid*) (Bone and Sprankling), T., 52; P., **1901**, 244.

βδ-Dimethyl-*a*-*iso*butylvaleric acid. See Undecoic acid.

αα-Dimethylbutyrolactone (Perkin), T., 257.

βγ-Dimethylbutyrolactoneacetic acid, and its lactone and β-bromo- (Stobbe, Strigel, and Meyer), A., i, 461.

2:7-Dimethylcarbazole (v. Niementowski), A., i, 21.

2:6-Dimethylchloroethoxylutidine. See 2:6-Dimethylnicotinic acid, 4-chloro-, ethyl ester.

Dimethylcoumarones, isomeric, in coal tar (Boes), A., i, 151.

βγ-Dimethylcrotonolactoneacetic acid (Stobbe, Strigel, and Meyer), A., i, 461.

Dimethyldiethyl*di*aminophenotolazo-oxonium iodide and its isomeride (Möhlau, Klimmer, and Kahl), A., i, 839.

Dimethyldi*cyclo*hexyl (Kursanoff), A., i, 360.

1:1-Dimethyl-$\Delta^{2:4}$-dihydrobenzene and its oxidation products and dibromide, hydrobromide, and nitrosochloride (Crossley and Le Sueur), T., 832; P., **1901**, 245.

physical properties of (Perkin), T., 836.

1:1-Dimethyl-$\Delta^{2:4}$-dihydrobenzene, 3:5-*di*chloro-, and its oxidation (Crossley and Le Sueur), T., 826; P., **1901**, 245; **1902**, 238.

physical properties of (Perkin), T., 828.

3:5-Dimethyl-$\Delta^{1:5}$-dihydrophenylacetic acid and its ethyl ester, silver salt and amide (Wallach and Böttcher), A., i, 798.

Dimethyldihydroresorcin (Crossley and Le Sueur), P., **1902**, 238.
and its halogen derivatives and methyl ester (Vorländer and Kohlmann), A., i, 610.
action of phosphorus pentachloride on, and its hydrochloride (Crossley and Le Sueur), T., 821; P., **1901**, 245.
action of phosphorus haloids on, and its anhydride (Crossley and Le Sueur), P., **1902**, 238.
4:4′-Dimethyldiphenyl, 2:2′-*di*amino-, and its diacyl derivatives (v. Niementowski), A., i, 21.
4:4′-Dimethyldiphenyleneoxide (v. Niementowski), A., i, 21.
Dimethylene tartrate (Sternberg), A., i, 259.
Dimethyleneiminodiphenylmethane, 5:5′-*di*nitro-3:2:3′:2′- (Meyer and Stillich), A., i, 320.
1:3-Dimethyl-5-ethylbenzene, 2-iodo- (Klages and Storp), A., i, 671.
Dimethyl-1-ethylbenziminoazoles, 2:5- and 2:6-, and their salts (Fischer, Rigaud, and Kopp), A., i, 189.
Dimethylethylbetaine and its salts (Willstätter), A., i, 268.
2:5-Dimethyl-1-ethylindole (Farbenfabriken vorm. F. Bayer & Co.), A., i, 493.
1:5-Dimethyl-2-ethyl-Δ^1-tetrahydrobenzene (Wallach and Thölke), A., i, 799.
Dimethylethyluracils, 1:4:3- and 3:4:1- (Behrend and Thurm), A., i, 832.
Dimethylfluoran nitrate and sulphates (Hewitt and Tervet), T., 665; P., **1902**, 86.
Dimethylfluorindine (*tolufluorindine*) (Nietzki and Slaboszewicz), A., i, 126.
2:4-Dimethylfurfuran-3-carboxylic acid and its salts and esters (Feist) A., i, 488.
$\alpha\alpha$-Dimethylglutaconic acid (*pentenedicarboxylic acid*), *cis-* and *trans-*, synthesis of (Perkin and Smith), P., **1902**, 214.
and its oxidation and distillation, and ethyl ester (Perkin), T., 253; P., **1900**, 214.
Dimethylglutaric acid (*pentanedicarboxylic acid*) (m. p. 74–75°), and its ethyl ester and anhydride (Blaise), A., i, 530.
(m. p. 100–101°) (Henrich), A., i, 422.
$\alpha\alpha$-Dimethylglutaric acid (*pentanedicarboxylic acid*), synthesis of (Perkin and Smith), P., **1902**, 214.
$\alpha\alpha$-Dimethylglutaric acid (*pentanedicarboxylic acid*), bromo-, ethyl ester, and the action of alcoholic potash on (Perkin), T., 252; P., **1900**, 214.
$\alpha\beta$-*di*bromo- (Perkin), T., 254.
$\beta\beta$-Dimethylglutaric acid (*pentanedicarboxylic acid*), preparation of (Vorländer and Kohlmann), A., i, 611.
$\alpha\beta$-Dimethylglutaric acid (*pentanedicarboxylic acid*), *cis-* and *trans-*, separation of, and its imide and α-cyano-derivatives (Thorpe and Young), P., **1902**, 247.
$\alpha\alpha$-Dimethylglutaric anhydride, action of aluminium chloride on (Desfontaines), A., i, 258.
Dimethylheptenol, mercuric compounds of (Sand and Singer), A., i, 851.
Dimethylhexamethylenes. See Dimethyl*cyclo*hexanes.
Dimethyl-$\gamma\delta$-hexane (*di*-sec.-*butyl*). See Octane.
1:1-Dimethyl*cyclo*hexane from camphoric acid (Zelinsky and Lepeschkin), A., i, 143.
1:3-Dimethyl*cyclo*hexane, and **1:3-Dimethyl*cyclo*hexanol** and its iodide, optically active (Zelinsky), A., i, 665.
1:3-Dimethyl-5-*cyclo*hexanecarboxylic acid and amide (Zelinsky), A., i, 675.
$\beta\epsilon$-Dimethylhexane-$\beta\epsilon$-diol. See Octylene glycol.
1:1′-Dimethyl*cyclo*hexanemalonic acid, ethyl ester (Zelinsky and Alexandroff), A., i, 74.
3:5-Dimethyl*cyclo*hexane-3-ol-1-one-4:6-dicarboxylic acid, diethyl ester, and its dibenzoyl and phenylcarbamide derivatives (Rabe and Elze), A., i, 710.
Dimethyl*cyclo*hexylthiocarbamide (v. Braun and Rumpf), A., i, 275.
Dimethylhomophthalcarboxylic acid and its salts (Wolff, Gabler, and Heyl), A., i, 678.
Dimethylhydroxyethylamine (*dimethylethanolamine*), and its picrate and picronolate (Knorr and Matthes), A., i, 13.
$\gamma\epsilon$-Dimethyl-γ-(or δ-)hydroxyhydrosorbolactone (Doebner), A., i, 341.
Dimethylindenes in tar (Boes), A., i, 435.
Dimethylindigotins (Kuhara and Chikashigé), A., i, 227.
1:2-Dimethylindole, 5-chloro- (Farbenfabriken vorm. F. Bayer & Co.), A., i, 493.
Dimethylionones, α- and β- (Haarmann & Reimer), A., i, 471.

Dimethylketazine, transformation of, into 3:5:5-trimethylpyrazoline (FREY and HOFMANN), A., i, 60.
Dimethyl-lupuline (WILLSTÄTTER and FOURNEAU), A., i, 558.
Dimethylmalonamide (FISCHER and DILTHEY), A., i, 270.
Dimethylmalonic acid (*propanedicarboxylic acid*) (PERKIN), T., 255; P., **1900**, 214.
Dimethylmethylene*di*thiodiglycollanilide (BECKURTS and FRERICHS), A., i, 764.
Dimethylnaphthalene (b. p. 264°) (FREUND and MAI), A., i, 101.
Dimethyl-β-naphthylamine and its salts (REYCHLER), A., i, 757.
α-Dimethylnaphthylaminesulphonic acids (FUSSGANGER), A., i, 279.
2:6-Dimethylnicotinic acid, 4-chloro-, and its ethyl ester and additive salts (MICHAELIS and HANISH), A., i, 823.
3:4-Dimethyl*cyclo*octa-$\Delta^{1:5}$-diene (DOEBNER), A., i, 599.
2-α-Dimethylolethylquinoline and its salts (KOENIGS and BISCHKOPF), A., i, 179.
2-Dimethylolmethyl-3-methylquinoline and its salts (KOENIGS and STOCKHAUSEN), A., i, 179.
3:5-Dimethyloxazole-4-α-propionic acid and its ethyl ester and copper derivative (MARCH), A., i, 257, 706.
3:5-Dimethyloxazole-4-β-propionic acid and its ethyl ester (MARCH), A., i, 707.
2:3-Dimethyloxazolidine (KNORR and MATTHES), A., i, 57.
Dimethylpentadecylcarbinol, and the action of bromine on (IPATIEFF and GRAVE), A., i, 5.
1:3-Dimethyl*cyclo*pentane, optically active (ZELINSKY), A., i, 665.
1:3-Dimethyl*cyclo*pentanol-3, and its iodide, optically active (ZELINSKY and GUTT), A., i, 70; (ZELINSKY), A., i, 665.
3:3-Dimethyl*cyclo*pentanone and its benzylidene derivatives and semicarbazone (WALLACH and SCHEUNERT), A., i, 806.
Dimethylphenazoxonium picrate (KEHRMANN and STAMPA), A., i, 567.
Dimethylphenonaphthacridine (ULLMANN), A., i, 119.
Dimethylphenoxazines, isomeric (KEHRMANN and STAMPA), A., i, 567.
1:3-Dimethyl-*m*-phenylenediamine, 4:6-*di*nitro- (BLANKSMA and MEERUM TERWOGT), A., i, 715.
Dimethyl-*p*-phenylenediamine, diazochloride of (HANTZSCH), A., i, 325.
Dimethylphloroglucinolcarboxylic acid and its methyl ether and their methyl esters (HERZIG and WENZEL), A., i, 464.
Dimethylphthalide-acetic-, -bromotetronic, and **-tetronic acids** (WOLFF, GABLER, and HEYL), A., i, 678.
Dimethylpinacone (NORRIS and GREEN), A., i, 5.
2:5-Dimethylpiperazine (HOYER), A., i, 352.
αβ-Dimethylpropanetricarboxylic acid (*pentanetricarboxylic acid*) (THORPE and YOUNG), P., **1902**, 248.
Dimethyl*iso*propylbenzene (WALLACH and BÖTTICHER), A., i, 799.
Dimethyl*cyclo*propylcarbinol, isomeride of (ZELINSKY), A., i, 70.
3:5-Dimethylpyrazole and its 1-carboxylamide (POSNER), A., i, 82.
1:3-Dimethylpyridazone (POPPENBERG), A., i, 61.
Dimethylpyridines, 2:4-, 2:5-, and 2:6-, from Scottish shale oil (GARRETT and SMYTHE), T., 451; P., **1900**, 190; **1902**, 47.
2:4-Dimethylpyridine, condensation of, with *p*-nitrobenzaldehyde (KNICK), A., i, 825.
6-amino-3-cyano- (MOIR), T., 112; P., **1901**, 69.
2:5-Dimethylpyridine, synthesis of, and its salts (ERRERA), A., i, 117.
Dimethylpyridinedicarboxylic acid, ethyl ester, and its platinichloride (KNOEVENAGEL and FUCHS), A., i, 565.
2:4-Dimethylpyridine-3:5-di- and **-3:5:6-tri-carboxylic acids** (WOLFF, GABLER, and HEYL), A., i, 677.
2:4-Dimethylpyrimidine and its 6-amino- and 6-chloro-derivatives, 6-mercaptan and sulphide (SCHMIDT), A., i, 499.
4:6-Dimethylpyrimidine, and its 2-chloro- and 2-amino-derivatives, 2-disulphide and 2-mercaptan (ANGERSTEIN), A., i, 123.
2:4-Dimethylpyrimidyl-ethylenediamine and **-glyoxime** peroxide (GABRIEL and COLMAN), A., i, 498.
Dimethylpyrone, constitution of (COEHN), A., i, 686.
physico-chemical properties of (WALDEN), A., i, 169; (WALKER), A., i, 170.
cupric chloride (WERNER), A., i, 687.
4:6-Dimethyl-1:2-pyrone-5-carboxylic acid, 3-bromo-, methyl ester (BUCHNER and SCHRÖDER), A., i, 319.
Dimethylpyronedicarboxylic acid, ethyl ester, action of hydroxylamine on (PALAZZO), A., i, 816.
2:4-Dimethylpyrrolidine and its salts (KNORR and RABE), A., i, 54.

Dimethylpyrrolines, 2:4- and 2:5-, and their salts (KNORR and RABE), A., i, 54.

Dimethylpyruvic acid and its ethyl ester, and their oximes (BOUVEAULT and WAHL), A., i, 137.

γε-Dimethylsorbic acid and its salts (DOEBNER), A., i, 340.

Dimethylsuccinic acid (*butanedicarboxylic acid*), synthesis of, under the action of light (ZERNOFF), A., i, 204, 343.

Dimethylsuccinic anhydride, action of aluminium chloride on (DESFONTAINES), A., i, 258.

Dimethyltetrahydrofurfuran and its salts (DUDEN and LEMME), A., i, 337.

Dimethyltetrahydronicotinobetaine and its salts (WILLSTÄTTER), A., i, 268.

Di-*p*-methyltetraphenylhexahydrotetrazine (RASSOW and RÜLKE), A., i, 404.

Dimethyl-*o*-toluidine, action of thallic chloride on (RENZ), A., i, 823.

Dimethyl-*o*-toluidine, 4-amino-, and its sulphate and acetyl derivative, and 4-nitro- (MÖHLAU, KLIMMER, and KAHL), A., i, 838.

4-nitro- (STADEN), A., i, 444.

6-nitro-, and its hydrobromide (v. TATSCHALOFF), A., i, 443.

Dimethyl-*m*-toluidine, 5-nitro- (HAIBACH), A., i, 444.

Dimethyl-*p*-toluidine, 2-nitro- (HAIBACH), A., i, 444.

αα-Dimethyltricarballylic acid (*pentanetricarboxylic acid*), esters (WEGSCHEIDER), A., i, 618.

Dimethyltricarballylic acids (*pentanetricarboxylic acids*), **αα-** and **αγ-**, synthesis and dissociation constants of, and their cyano-derivative, esters, and anhydro-acids (BONE and SPRANKLING), T., 29; P., **1901**, 215.

Dimethyltrimethylenedicarboxylic acid (BONE and SPRANKLING), T., 51; P., **1901**, 243.

Dimethyluracils, constitution of (BEHREND and THURM), A., i, 832.

Dimethylvinylacetic acid (*hexenoic acid*) (PERKIN), T., 256.

Dimethylvioluric acid, action of barium hydroxide on (WHITELEY), P., **1902**, 220.

3:8-Dimethylxanthine (BOEHRINGER & SÖHNE), A., i, 125.

Dimyrcene (HARRIES), A., i, 811.

Dinaphthapyranol, oxidising properties of (FOSSE), A., i, 689.

Dinaphthaxanthene and bromo- (FOSSE), A., i, 171, 368.

bromo- and chloro- (FOSSE), A., i, 171.

Dinaphthaxanthhydrol and its acetate (FOSSE), A., i, 171, 368.

Dinaphthaxanthone platinichloride (FOSSE), A., i, 171.

Dinaphthaxanthone, bromo- (FOSSE), A., i, 51.

γ-Dinaphthaxanthone (STROHBACH), A., i, 172.

Dinaphthaxanthonium bromide and iodide, *di*bromo- and *di*iodo- (FOSSE), A., i, 304.

α-Dinaphthazothione (KEHRMANN, GRESSLY, and MISSLIN), A., i, 569.

α-Dinaphthylamine, thio-, and its picrate (KEHRMANN, GRESSLY, and MISSLIN), A., i, 569.

Dinaphthylene glycol, so-called (FOSSE), A., i, 368.

derivatives of (FOSSE), A., i, 51.

Di-α- and -β-naphthylethylenedisulphones (TRÖGER and BUDDE), A., i, 775.

Di-β-naphthylformamidine (DAINS), A., i, 602.

Di-β-naphthylguanidine, amino-, and its additive salts (BUSCH and ULMER), A., i, 574.

Di-α-naphthylmethyl -thiocarbamides, -thiocarbimides, and **bromide** (WHEELER and JAMIESON), A., i, 763.

Diopside from Monhegan Island, Maine (LORD), A., ii, 463.

Dioxyalkylpyridines, *di*cyano-, preparation of (GUARESCHI), A., i, 819.

2:4-Dioxycopazoline and its salts (GABRIEL and COLMAN), A., i, 841.

1:4-Dioxycopyrine, and its salts, and **carbozylic acid**, methyl ester (GABRIEL and COLMAN), A., i, 401.

2:6-Dioxymethylpyrimidine. See Methyluracil.

Dioxypinene and its oxime, semicarbazone, and compound with phenylcarbimide (BALBIANO and PAOLINI), A., i, 808.

Dioxysylvic acid (FAHRION), A., i, 166.

Dioxytariric acid and its dioxime (ARNAUD), A., i, 343.

Dipalmito-olein and **-stearin** (HANSEN), A., i, 340.

s-Dipalmitylhydrazide (DELLSCHAFT), A., i, 142.

Dipentene bromides (WALLACH and RAHN), A., i, 803.

hydrochloride, magnetic rotation of (PERKIN), T., 307; P., **1902**, 29.

Diphenacyl, bromo- and chloro- (PAAL and SCHULZE), A., i, 229.

Diphenic anhydride, condensation of, with benzene (GÖTZ), A., i, 372.

2:2′-Diphenol and its hydrate, dimethyl and ethylene ethers, urethane, and amino-, bromo-, chloro- and nitro-derivatives (DIELS and BIBERGEIL), A., i, 219.

Diphenyl, critical constants and molecular complexity of (GUYE and MALLET), A., ii, 195, 303.

derivatives (ULLMANN and FORGAN), A., i, 89; (BÖRNSTEIN), A., i, 127.

Diphenyl, 2:2′-*di*amino- and its dibenzoyl and diformyl derivatives, and 2:2′-*di*nitro- (v. NIEMENTOWSKI), A., i, 21.

4:4′-*di*amino-. See Benzidine.

2:2′-*di*nitro-, electrolytic reduction of (WOHLFAHRT), A., i, 509.

and 4:4′- and 5:5′-*di*chloro-2:2′-*di*nitro- (ULLMANN and FORGAN), A., i, 89; (ULLMANN), A., i, 435.

Diphenyl sulphide, *tetra*nitro*di*cyano- (BLANKSMA), A., i, 281.

sulphide, bromonitro-, chloronitro- and nitro-derivatives of (BLANKSMA), A., i, 282.

sulphoxide, bromonitro-derivatives of (BLANKSMA), A., i, 282.

*di*sulphoxide, *di*-*p*-iodo- (TRÖGER and HURDELBRINK), A., i, 275.

Diphenylacetaldehyde, 4:4′-*di*chloro- (MONTAGNE), A., i, 473.

Diphenylacetic acid, methylene ester (DESCUDÉ), A., i, 339.

Diphenylacetylenecarbinol (*phenylphenylacetylenecarbinol*) (MOUREU and DESMOTS), A., i, 289.

γδ-Diphenylallylacetic acid. See γδ-Diphenyl-γ-pentenoic acid.

Diphenylamine, 4′-mono- and 5:4′-*di*chloro-2-amino-, 4′-chloro-2-amino-, and 4′-chloro-3-nitro- (WILBERG), A., i, 314.

5′-chloro-2′:4′-*di*nitro-2-amino- (NIETZKI and SLABOSZEWICZ), A., i, 125.

4:6-*di*nitro-2-cyano- (BLANKSMA), A., i, 281.

Diphenyl*tetra*-**aminobenzene**, *di*amino- (NIETZKI and SLABOSZEWICZ), A., i, 126.

Diphenyl-*p*-anisylcarbinol (v. BAEYER and VILLIGER), A., i, 771.

Diphenylarsenic compounds (MICHAELIS and WEBER), A., i, 515.

Diphenyl-*p*-azophenylene, action of hydrogen chloride on (BANDROWSKI and PROKOPECZKO), A., i, 330.

Diphenylazophenylmethylglycine (MAI), A., i, 249.

1:2-Diphenyl-3-benzyl-, -3-bornyl-, -3-ethyl-, -3-fenchyl-, and **-3-methyliminoxanthides** (TSCHUGAEFF), A., i, 605.

Diphenylbisazobenzoylacetic acid, ethyl ester, and its phenylhydrazine compound (BÜLOW and HAILER), A., i, 326.

βγ-Diphenylbutyrolactone, **βγ-*di*bromo-** (THIELE and STRAUS), A., i, 154.

Diphenylcarbamide, *di*-*p*-chloro-, and its acetyl derivative (BAMBERGER and DESTRAZ), A., i, 539.

Diphenylchlorophenylene-*p*-diamines (BANDROWSKI and PROKOPECZKO), A., i, 330.

βγ-Diphenyl-Δ$^{\alpha}$-crotonolactone and its isomeride and bromo-derivatives and their α-benzylidene compounds (THIELE and STRAUS), A., i, 154.

αβ-Diphenyl-αα-dibenzyl- and **-αα-diphenyl-thiolethane-β-ol** (POSNER), A., i, 221.

Diphenyldihydrazonecyanoacetic acid, esters, and their dialkyl derivatives (FAVREL), A., i, 329.

Diphenyldihydrazonemalonic acid and its esters (FAVREL), A., i, 507.

ββ-Diphenyl-αα-dimethylpropionic acid (NEF), A., i, 8.

Diphenyl-4:4′-disulphonic acid, 2:2′-*di*nitro-, and its potassium salt (ULLMANN), A., i, 435.

Diphenylenebistriazole (WHEELER and JOHNSON), A., i, 27.

Diphenyleneketonecarboxylic acid. See Fluorenone-5-carboxylic acid.

4:5-Diphenylene-1-methyliminoazole, identity of, with epiosine (VAHLEN), A., i, 727.

Diphenylenequinoxaline, nitro- (SCHMIDT and KÄMPF), A., i, 797.

Diphenylenequinoxalinesulphonic acid, potassium salt (WERNER), A., i, 441.

Diphenylethane, ω-bromo- (WHEELER and JOHNSON), A., i, 761.

ω-*di*chloro*di*nitro- (BILTZ), A., i, 417.

s-*di*nitro- (SCHMIDT), A., i, 500.

s-**β-Diphenylethane**, ω-*di*nitro- (SCHMIDT), A., i, 21.

s-**Diphenylethylene.** See Stilbene.

αβ-Diphenylethyl phenyl ketone, thio- (POSNER), A., i, 297.

Diphenylformamidine, *di*-*p*-chloro-, and its picrate (DAINS), A., i, 602.

Diphenylglycollic acid. See Benzilic acid.

Diphenylguanidine, amino-, and its reactions (BUSCH and ULMER), A., i, 573.

Diphenyl*cyclo***hexanes**, *o*-, *m*-, and *p*- (KURSANOFF), A., i, 20.

Diphenylhydroxyformamidine and its salts (BAMBERGER and TSCHIRNER), A., i, 277; (LEY), A., i, 445.

Diphenyliodonium bromocamphorsulphonate (PETERS), T., 1359; P., **1902**, 184.

Diphenyliodonium hydroxide and salts, *s*-iodonitro- (WILLGERODT and ERNST), A., i, 17.

Diphenylmethane, critical constants and molecular complexity of (GUYE and MALLET), A., ii, 195, 303.

Diphenylmethane, 2:2′-*di*amino-, and 2:2′-*di*nitro- (SCHNITZSPAHN; BERTRAM), A., i, 436.

ω-bromo-, action of, on pyridine (TSCHITSCHIBABIN), A., i, 395.

*s-op-di*nitro- (SCHORLEMMER), A., i, 435.

2:2′-*di*nitro-4:4′-*di*amino-, and its hydrochloride and sulphate (SCHNITZSPAHN), A., i, 436.

Diphenylmethane-3:3′-dicarboxylic acid, 4:4′-*di*amino-, and its salts, esters, and diacetyl and dibenzoyl derivatives (HELLER and FIESSELMANN), A., i, 779.

Diphenylmethyl-acetamide and **-benzamide** (WHEELER), A., i, 28.

Diphenylmethylamine, action of thallic chloride on (RENZ), A., i, 823.

Diphenylmethylenediamine and its platinichloride (SENIER and GOODWIN), T., 283; P., **1902**, 12.

Diphenylmethylphenylsemithiocarbazide (WHEELER), A., i, 29.

1:5-Diphenyl-3-methylpyrazole-4-azobenzene (SACHS and RÖHMER), A., i, 837.

1-Diphenylmethylpyridine, 1-bromo- (TSCHITSCHIBABIN), A., i, 395.

1-Diphenylmethylpyridone salts (TSCHITSCHIBABIN), A., i, 395.

2:3-Diphenyl-5-methylpyrrole and its **-4-carboxylic acid,** ethyl ester, and 4-acyl derivatives (KNORR and LANGE), A., i, 822.

4:5-Diphenyl-2-methylpyrrole-3-carboxylic acid and its ethyl ester and salts (FEIST and STENGER), A., i, 489.

Diphenylmethylthiocarbamides (WHEELER), A., i, 28.

Diphenylmethylthiocarbimide (WHEELER), A., i, 28.

Diphenyl-4:6-*di*nitro-1:3-phenylenediamine, *o-di*amino- (NIETZKI and SLABOSZEWICZ), A., i, 126.

3:4-Diphenyl*cyclo*octa-$\Delta^{1:5}$-diene (DOEBNER), A., i, 599.

Diphenyloxyformamidine, *di-p*-chloro-, and its copper salt (BAMBERGER and DESTRAZ), A., i, 539.

αε-Diphenyl-*a*-pentanol (SORGE), A., i, 379.

γδ-Diphenyl-γ-pentenoic acid and its salts (FICHTER and MERCKENS), A., i, 160.

Diphenyl-propanes and **-propylenes,** αα- and αβ- (KLAGES), A., i, 668.

s-**Diphenylpropionylhydrazine** (JORDAN), A., i, 58.

2:5-Diphenylpyrazine (KUNCKELL and VOSSEN), A., i, 599.

di-p-bromo- and *di-p*-chloro- (COLLET), A., i, 39.

1:4-Diphenylpyrrolidone-mono- and **-5:5-di-carboxylic acids** (CONRAD and REINBACH), A., i, 211.

ζζ-Diphenylsulphone-β-methylheptane-δ-one (POSNER), A., i, 221.

Diphenyltetramethylenebisbromomethyleneacetic acid (KOHLER), A., i, 788.

Diphenyltetramethylenebismethylenemalonic acid and its esters (RIIBER), A., i, 617, 785; (KOHLER), A., i, 788.

Diphenyltetrenecarboxylic acid, dihydroxyfluorescein of (LIEBERMANN and WÖLBLING), A., i, 547.

Diphenyltetrenedicarboxylic acid and its esters, salts, anhydride, amide and imide (LANSER and HALVORSEN), A., i, 458.

Diphenylthiocyanoacetic acid, ethyl ester (WHEELER and JOHNSON), A., i, 761.

Diphenyl-ψ-thiohydantoin (WHEELER), A., i, 28; (WHEELER and JOHNSON), A., i, 761.

ββ-Diphenylthiol-γ-methylpentane-δ-one (POSNER), A., i, 221.

Diphenylthiolstilbene (POSNER), A., i, 220.

Diphenyl-*p*-tolylaminotriazole (WHEELER and JOHNSON), A., i, 27.

Diphenyl-*p*-tolylarsenic compounds (MICHAELIS and LAUTERWALD), A., i, 519.

1:3-Diphenyl-1:2:4-triazole 5-mercaptan (WHEELER and BEARDSLEY), A., i, 503.

1:5-Diphenyl-1:2:4-triazole 3-mercaptan and benzoyl derivative, 3-alkylmercaptans, and sulphides (WHEELER and BEARDSLEY), A., i, 502.

Diphenylurazine, constitution of (ACREE), A., i, 243.

αδ-Diphenylvaleric acid, βγ-*di*bromo- (THIELE and STRAUS), A., i, 158.

γδ-Diphenylvalerolactone (FICHTER and MERCKENS), A., i, 160.

Diphthaliminosulphonal (MANASSE), A., i, 348.

Diphylline (SCHLOTTERBECK and WATKINS), A., ii, 101.

Dipicraminophenol and its reactions (CROCKER), A., i, 566.

Dipinylthiocarbamide (v. BRAUN and RUMPF), A., i, 275.

Dipiperidyl-ethane- and **-propane-bisiodomethyl** iodides (SCHOLTZ), A., i, 836.

Diplococcus, intravenous inoculation of a, from rheumatic fever cases (POYNTON and PAINE), A., ii, 96.
Dipropionyl. See Diethyl diketone.
s-**Dipropionylhydrazide** (HILLE), A., i, 141.
Dipropionylorthonitric acid (PICTET and GENEQUAND), A., i, 584.
o-**Dipropoxydiphenyltetrahydropyrone** and its oxime (POSNIAKOFF), A., i, 170.
2:5-Dipropoxy-quinol and **-quinone** (KNOEVENAGEL and BÜCKEL), A., i, 106.
Dipropylmalonamide (FISCHER and DILTHEY), A., i, 270.
αγ-Di*iso*propyltricarballylic acids (*nonanetricarboxylic acids*), synthesis and dissociation constants of, and their cyano-derivative, esters, and anhydro-acids (BONE and SPRANKLING), T., 29; P., **1901**, 215.
Di-2- and **-4-pyridoylsuccinic acids**, ethyl esters (PINNER, DONCHI, DREXLER, and BAY), A., i, 176.
4:4-Dipyrimidylethylenediamine and its additive salts and diacetyl derivative (GABRIEL and COLMAN), A., i, 498.
4:4-Dipyrimidylglyoxime *per*oxide (GABRIEL and COLMAN), A., i, 498.
Disaccharides, new synthesis of (FISCHER and ARMSTRONG), A., i, 746.
Dispersion. See Photochemistry.
Dissociating compounds, melting of (LIDBURY), A., ii, 242.
Dissociating power of hydrogen sulphide (SKILLING), A., ii, 13.
Dissociation of acetic acid in chloroform solution (DAWSON), T., 521; P., **1902**, 69.
of acids, bases, and salts at different temperatures (JONES and DOUGLAS), A., ii, 59.
of dibasic acids (WEGSCHEIDER), A., ii, 643.
of the monohydric alcohols, and their ethers and metallic derivatives (NEF), A., i, 6.
of quaternary ammonium salts (WEDEKIND and OBERHEIDE), A., i, 277; (WEDEKIND and OECHSLEN), A., i, 392.
of carboxyhæmoglobin (GRÉHANT), A., ii, 93.
of the hydrate and alcoholate of chloral in solution (BRUNER), A., ii, 305.
of ternary electrolytes (DRUCKER), A., ii, 3.
of double salts in water (RIMBACH), A., ii, 306.
of neutral salts (ARNDT), A., ii, 62.
Dissociation constants of alkyltricarballylic acids (BONE and SPRANKLING), T., 37; P., **1901**, 215.
of oxalacetic acid and its phenylhydrazone (JONES and RICHARDSON), T., 1158; P., **1902**, 141.
Dissociation media and inorganic solvents (WALDEN), A., ii, 247.
Dissociation theory for binary electrolytes and thermodynamics (PLANCK), A., ii, 597.
Dissolved compounds, state of, deduced from partition coefficients (HANTZSCH and VAGT), A., ii, 8.
Distearopalmitin (HANSEN), A., i, 339.
Distillation, fractional, as a method of quantitative analysis (YOUNG and FORTEY), T., 752; P., **1902**, 106.
simultaneous, of two non-miscible substances (CHARABOT and ROCHEROLLES), A., ii, 552.
vacuum (FISCHER and HARRIES), A., ii, 491.
adapter for (PATTERSON), A., ii, 389.
pressure regulator for (BURSTYN), A., ii, 313.
Distillery grains. See Agricultural Chemistry.
Disulphobenzoic acid (HOHENEMSER), A., i, 629.
Disulphones (POSNER), A., i, 220, 296, 622.
Disulphonic chlorides, aliphatic, interaction of, with aromatic amino-compounds (AUTENRIETH and RUDOLPH), A., i, 22.
Dithionic acid. See under Sulphur.
s-**Di-α-thiophencarbamide** (CURTIUS and THYSSEN), A., i, 305.
Dithymolylamine and its mono- and di-ethyl ethers (DECKER and v. SOLONINA), A., i, 767.
Di-*o*- and -*p*-toluenesulphonimides (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 364.
3:5-Di-*o*-toluidino-1-*iso*propylbenzoquinone, 6-bromo- (BÖTERS), A., i, 474.
Di-*p*-toluoyl nitrogen chloride (CHATTAWAY), P., **1902**, 166.
4:4′-Ditolyl, 2:2′-*di*nitro- (ULLMANN and FORGAN), A., i, 89; (ULLMANN), A., i, 435.
Di-*p*-tolyl*di*aminodihydroxydiphenylmethane (GNEHM and VEILLON), A., i, 288.
Di-*p*-tolylcarbamide and its acetyl derivative (BAMBERGER and DESTRAZ), A., i, 539.
Di-*o*-tolyldihydrazonecyanoacetic acid, esters, and their dialkyl derivatives (FAVREL), A., i, 330.

Di-*o*-tolyldihydrazonemalonic acid and its esters (FAVREL), A., i, 507.
Di-*o*- and -*p*-tolylformamidines, reaction of, with ethyl acetoacetate, and with ethyl cyanoacetate (DAINS), A., i, 603.
Di-*op*-tolylguanidine (HELLER and BAUER), A., i, 445.
Di-*p*-tolylguanidine, amino- (BUSCH and ULMER), A., i, 574.
Di-*p*-tolyliodonium salts (PETERS), T., 1358; P., **1902**, 184.
Di-*o*-,-*m*-,and-*p*-tolylmethylenediamines (SENIER and GOODWIN), T., 283; P., **1902**, 12.
Di-*o*- and -*p*-tolylmethylenedihydroxylamines (BAMBERGER and DESTRAZ), A., i, 539.
Di-*p*-tolyloxyformamidine, copper salt and hydrochloride (BAMBERGER and DESTRAZ), A., i, 538.
2:5-Di-*p*-tolylpyrazine (KUNCKELL and VOSSEN), A., i, 599.
Dittmarite in Australian bat guano (MACIVOR), A., ii, 460.
Ditrimethylenedipiperidylium bromide and its salts (SCHOLTZ), A., i, 835.
Diuresis (HALSEY), A., ii, 275.
saline (CUSHNY), A., ii, 276.
See also Urine.
Diurethanepyruvic acid and its ethyl ester (SIMON), A., i, 14.
Diuretic action of isotonic salt solutions (HAAKE and SPIRO), A., ii, 416.
Di*iso*valeryl and its dioxime (PONZIO), A., i, 134.
***s*-Divalerylhydrazide** (HILLE), A., i, 142.
Dixanthoxonium salts (WERNER), A., i, 51.
3:5-Di-*p*-xylidino-1-*iso*propylbenzoquinone, 6-bromo- (BÖTERS), A., i, 474.
Di-*as*-*m*-xylyldiketopiperazine (KUHARA and CHIKASHIGÉ), A., i, 227.
Di-*m*- and -*p*-xylylethylenedisulphone (TRÖGER and BUDDE), A., i, 775.
Di-*m*-xylylformamidine, and its salts (DAINS), A., i, 602.
Di-*p*-xylylformamidine, action of ethyl acetoacetate on (DAINS), A., i, 603.
Dixylylmethylenediamine and its platinichloride and nitro-derivatives (SENIER and GOODWIN), T., 284; P., **1902**, 12.
Di-1:3:4- and -1:4:2-xylylmethylenedihydroxylamines (BAMBERGER and DESTRAZ), A., i, 539.
Di-*m*- and -*p*-xylyloxyformamidines and their copper salts (BAMBERGER and DESTRAZ), A., i, 539.
Docosane (MABERY), A., i, 734.
***dicyclo*Dodecatriene** (DOEBNER), A., i, 598.
Dogs, calcium and magnesium in (ALOY), A., ii, 618.
ammonia in the blood and organs of (HORODYŃSKI, SALASKIN, and ZALESKI), A., ii, 516.
glycuronic acid in the blood of (LÉPINE and BOULUD), A., ii, 619.
acid poisoning in (SPIRO), A., ii, 37.
new-born, gastric digestion in (GMELIN), A., ii, 571.
See also Agricultural Chemistry.
Dolerophanite as a furnace product (STRANDMARK), A., ii, 666.
Dolomite from Hungary (LOCZKA), A., ii, 89.
composition of (ARSANDAUX), A., ii, 329.
Dopplerite (IMMENDORFF), A., ii, 665.
Dorstenia Brasiliensis and *D. Klaineana*, composition of the roots of (HECKEL and SCHLAGDENHAUFFEN), A., ii, 101.
Douglas fir. See *Pseudotsuga taxifolia*.
Drainage water. See Agricultural Chemistry.
Draper effect (MELLOR and ANDERSON), T., 414; P., **1902**, 32.
Drinking water. See Water.
Drying apparatus under reduced pressure at high temperatures (PREGL), A., ii, 202.
Dufrenoysite (SOLLY and JACKSON), A., ii, 403.
Durene, critical constants and molecular complexity of (GUYE and MALLET), A., ii, 195, 303.
action of bromine on (v. KORCZYNSKI), A., i, 274.
Durylene *di*bromide, glycol, and diacetate (v. KORCZYNSKI), A., i, 274.
Dyeing, theory of (v. BAEYER and VILLIGER), A., i, 380, 769; (KNECHT), A., i, 387; (GNEHM and KAUFLER; v. GEORGIEVICS), A., i, 635; (ZACHARIAS), A., i, 635, 725; (EBERLE and ULFFERS), A., i, 636.
the solution theory of (BROWN and MCCRAE), A., ii, 128.
with mordants (LIEBERMANN), A., i, 475.
α-*iso*Dypnopinalcolin, action of heat on (DELACRE), A., i, 774.

E.

Earth-nut oil. See Arachis oil.
seeds, transformation of fatty substances into sugar in germinating (MAZÉ), A., ii, 346.
Earths, rare, spectra of (LANGLET), A., ii, 189.

Earths, rare, place of the metals of the, in the periodic system (STEELE), A., ii, 79; (BRAUNER), A., ii, 312.
error of the "sulphate method" for the determination of the atomic weights of the (BRAUNER and PAVLÍČEK), T., 1248; P., **1901**, 63.
double salts of the, with bismuth, isomorphism of (BODMAN), A., ii, 507.
precipitation and separation of the, by aromatic bases (JEFFERSON), A., ii, 534.
separation of, from monazite sand (DROSSBACH), A., ii, 659.
separation of cerium from a mixture of (MEYER and KOSS), A., ii, 262.
of the yttrium group, separation of the (DENNIS and DALES), A., ii, 456.
See also Cerite metals.
Ebony, green, colouring matters of (PERKIN and BRIGGS), T., 210; P., **1902**, 11.
Ecgonine, and its additive compounds (HESSE), A., i, 306.
the optical function of the asymmetric carbon atoms in (GADAMER), A., i, 174.
Echinoderm embryos, action of atropine and pilocarpine on (MATHEWS), A., ii, 96.
Eclogites from the Aiguilles Rouges (JOUKOWSKY), A., ii, 214.
Egg-albumin. See Albumin.
Eggs, crows', white of, crystalline albumin from the (WORMS), A., i, 65.
fishes, amount of nitrogen in, during incubation (LEVENE), A., ii, 333.
frogs' (KOLB), A., ii, 152.
hens', fat of (THORPE), A., ii, 95.
iron in (HARTUNG), A., ii, 618.
sea urchins', prolongation of the life of, by potassium cyanide (LOEB and LEWIS), A., ii, 151.
and embryos, effect of potassium cyanide and of lack of oxygen on (LYON), A., ii, 333.
Egg-white, coagulable components of (LANGSTEIN), A., i, 65.
fibrinogenous substance in (GAUTIER), A., ii, 622.
Egg-yolk, composition of (THORPE), A., ii, 95; (MALCOLM), A., ii, 152.
Elæolite-syenites in Madras (HOLLAND), A., ii, 148.
Elastin in elastic tissue (RICHARDS and GIES), A., i, 410.
Elderberry, red, oil of the (BYERS and HOPKINS), A., ii, 685.
Elder pith, constituents of (BROWNE and TOLLENS), A., ii, 420.

ELECTROCHEMISTRY:—
Electrochemistry, theory of (NERNST), A., ii, 192.
of double salts (KISTIAKOWSKY), A., ii, 121.
Accumulators, lead, estimation of acetic acid in (FORMENTI), A., ii, 363.
Cells, acid | alkali |, electrolytic actions developed by (BERTHELOT), A., ii, 547.
chlorine hydrogen gas, E.M.F. of (MÜLLER), A., ii, 298.
containing chromic chloride, change of E.M.F. in (MAZZUCCHELLI), A., ii, 119.
Clark, inversion of zinc sulphate in (BARNES and COOKE), A., ii, 486.
concentration, with immiscible solvents (RIESENFELD), A., ii, 594.
E.M.F. of, osmotic pressure of solutions calculated from the (GODLEWSKI), A., ii, 445.
E.M.F. of an amalgam, new expression for the (HABER), A., ii, 638.
Daniell, variation of the E.M.F. and of the temperature coefficient of, with the concentration of zinc sulphate (CHAUDIER), A., ii, 239.
galvanic, and the phase rule (REINDERS), A., ii, 639.
gas, E.M.F. of (BOSE), A., ii, 58, 375; (CZEPINSKI), A., ii, 298; (LORENZ), A., ii, 485.
Grove's gas, secondary reactions in (v. BIRON), A., ii, 1.
the nitrogen hydrogen gas (BAUR), A., ii, 239.
oxidation and reduction, theory of (FREDENHAGEN), A., ii, 238.
founded on the reciprocal action of oxidising and reducing liquids (BERTHELOT), A., ii, 375, 376, 439, 546.
voltaic, polarisation in (BERTHELOT), A., ii, 439.
Conductivity of liquid dielectrics under the influence of radium or Röntgen radiations (CURIE), A., ii, 298; (TOMMASINA), A., ii, 438.
of concentrated solutions of electrolytes (JONES and GETMAN), A., ii, 489.
of mixtures of electrolytes (SABAT), A., ii, 591.
of solutions of mixed electrolytes (WOLF), A., ii, 299.
of aqueous solutions of electrolytes consisting of univalentions (KOHLRAUSCH and v. STEINWEHR), A., ii, 487.

ELECTROCHEMISTRY :—
Conductivity of solvents and solutions and the influence of temperature on it (EVERSHEIM), A., ii, 596.
and atomic heat of metals (STREINTZ), A., ii, 595.
of solutions of barium bromide and iodide, and of calcium bromide, chloride, and iodide (DE COPPET and MULLER), A., ii, 488.
of potassium and sodium hydroxides in glycerol (DI CIOMMO), A., ii, 3.
of some acids and esters (WEGSCHEIDER), A., i, 617, 618.
of α-, β-, γ-, and δ-halogen derivatives of fatty acids (LICHTY), A., i, 201.
of chloro- and bromo-nitrobenzoic acids (HOLLEMAN and DE BRUYN), A., i, 94.
of solutions in ethyl bromide (PLOTNIKOFF), A., ii, 639.
of ferric organic compounds (HANTZSCH and DESCH), A., i, 708.
of nitrobenzene solutions of iodine and potassium iodide (DAWSON and GAWLER), T., 532 ; P., **1902**, 70.
of flames and gases (DE HEMPTINNE), A., ii, 119.
of animal tissues (GALEOTTI), A., ii, 675.
Contact electricity (KNOBLAUCH), A., ii, 117.
Current, syntheses by means of the (LÖB), A., i, 3.
intensity, relation between, and manifestation of electrolysis (BERTHELOT), A., ii, 591.
lines, dispersion of, in electrolytes (PFANHAUSER), A., ii, 3.
Dielectric constants, improved apparatus for the measurement of (DRUDE), A., ii, 439.
of pure solvents (SCHLUNDT), A., ii, 2.
of solvents and solutions, and the influence of temperature on it (EVERSHEIM), A., ii, 596.
in relation to refractive indices of nitrogen compounds (VAN AUBEL), A., ii, 373.
of paraffins (HORMELL), A., ii, 118.
Dielectrics, liquid, conductivity of, under the influence of radium or Röntgen radiations (CURIE), A., ii, 298 ; (TOMMASINA), A., ii, 438.
Electro-affinity as a basis for the systematisation of inorganic compounds (LOCKE), A., ii, 240 ; (ABEGG and BODLÄNDER), A., ii, 642.

ELECTROCHEMISTRY :—
Electrocapillary curve, asymmetry of (VAN LAAR), A., ii, 640.
properties of some organic compounds (GOUY), A., ii, 194, 487.
Electric discharge, formation of ozone by the (DE HEMPTINNE), A., ii, 252.
high pressure, action of, on bromine (KELLNER), A., ii, 649.
Electrical discharging action of the decomposition of hydrogen peroxide by light (D'ARCY), A., ii, 297.
Electrical resistance, increase of, caused by alloying iron with various elements (BARRETT), A., ii, 377.
of steel and pure iron (BENEDICKS), A., ii, 439.
metallic sulphides (GUINCHANT), A., ii, 486.
of blood serum (DONGIER and LESAGE), A., ii, 411.
Electric spark, decomposition of water vapour by the (CHAPMAN and LIDBURY), T., 1301 ; P., **1902**, 183.
Electrical waves, influence of, on chemical action (LENGFELD and RANSOM), A., ii, 4.
Electrical properties of alloys of cobalt and copper (REICHARDT), A., ii, 118.
Electrochemical behaviour of sulphur (KÜSTER), A., ii, 640.
equivalent of silver (RICHARDS and HEIMROD), A., ii, 592 ; (LEDUC), A., ii, 593.
studies with acetylene (BILLITZER), A., ii, 439.
Electrode, hydrogen, depolarisation of the, by aromatic compounds (PANCHAUD DE BOTTENS), A., ii, 487.
Electrode potentials (HABER), A., ii, 192.
Anodes, carbon, behaviour of, in the electrolysis of alkali chlorides (SPROESSER), A., ii, 193.
of platinum and of platinum-iridium, behaviour of, in the electrolysis of hydrochloric acid (BRAN), A., ii, 442.
soluble, formation of insoluble precipitates by means of electrolysis with (LE BLANC and BINDSCHEDLER), A., ii, 442.
Cathodes, disintegration and pulverisation of (HABER and SACK), A., ii, 441 ; (HABER), A., ii, 638.
of lead and mercury, reducing action of, in solutions containing sulphuric acid (TAFEL and SCHMITZ), A., ii, 442.
Electrolysis, laws of, of the vapours of alkali salt (WILSON), A., ii, 640.

ELECTROCHEMISTRY:—
Electrolysis, Faraday's law and its range of validity (BOSE), A., ii, 299.
relation between current intensity and manifestation of (BERTHELOT), A., ii, 591.
behaviour of diaphragms during (HITTORF), A., ii, 59.
of aqueous solutions with platinised electrodes (FOERSTER and FRIESSNER), A., ii, 488.
of fused salts (LORENZ), A., ii, 591, 640; (BODLÄNDER), A., ii, 640.
of solutions of alkali chlorides, current and energy efficiencies obtained in the (FOERSTER and MÜLLER), A., ii, 240.
with carbon anodes (SPROESSER), A., ii, 193.
with platinised electrodes (FOERSTER and MÜLLER), A., ii, 640.
of aluminium bromide in ethyl bromide solution (PLOTNIKOFF), A., ii, 639.
of ammonium chloride and iodide in solution in liquefied ammonia (MOISSAN), A., ii, 71.
of hypochlorous acid and its salts (FOERSTER and MÜLLER), A., ii, 642.
of silver nitrate (LEDUC), A., ii, 592.
of salts of the fatty acids, formation of alcohols and aldehydes by the (HOFER and MOEST), A., i, 736.
of organic acids, history of (BUNGE), A., i, 338.
of mixtures of acetone and hydrobromic acid and of acetone and hydrochloric acid (RICHARD), A., i, 133.
of acetylene or acetylides (BILLITZER), A., ii, 593.
of antimony potassium tartrate (v. HEMMELMAYR), A., ii, 459.
of *n*-methylgranatonine (PICCININI), A., i, 488.
of histon and nucleohiston salts (HUISKAMP), A., i, 332.
Electrolytes, conductivity of mixtures of (SABAT), A., ii, 591.
conductivity of solutions of mixed (WOLF), A., ii, 299.
consisting of univalent ions, conductivity of aqueous solutions of (KOHLRAUSCH and v. STEINWEHR), A., ii, 487.
lowering of the freezing point and electrical conductivity of concentrated solutions of (JONES and GETMAN), A., ii, 489.

ELECTROCHEMISTRY:—
Electrolytes, determination of the freezing point depression constant for (HEBB), A., ii, 443.
dispersion of current lines in (PFANHAUSER), A., ii, 3.
retrograde diffusion of (THOVERT), A., ii, 445.
precipitation of colloids by (WHITNEY and OBER), A., ii, 65.
binary, the dissociation theory for, and thermodynamics (PLANCK), A., ii, 597.
ternary, dissociation of (DRUCKER), A., ii, 3.
Electrolytic action of a pile, detection of the (BERTHELOT), A., ii, 440.
Electrolytic dissociation, theory of, and instantaneous chemical reactions (KAHLENBERG), A., ii, 301.
Electrolytic extraction of copper, theory of the (EGLI), A., ii, 323.
Electrolytic formation of alloys of magnesium and nickel (COEHN), A., ii, 660.
of chlorates and hypochlorites, current and energy efficiencies obtained in the (FOERSTER and MÜLLER), A., ii, 240.
of hydroxylamine (TAFEL), A., ii, 559.
of periodic acid (MÜLLER and FRIEDBERGER), A., ii, 556.
of lead (LINN), A., ii, 475.
of lead dioxide (CHEMISCHE FABRIK GRIESHEIM-ELEKTRON), A., ii, 322.
of colloidal mercury and other metals (BILLITZER), A., ii, 454.
of metals of the cerium group (MUTHMANN, HOFER, and WEISS), A., ii, 262.
of persulphates without a diaphragm (MÜLLER and FRIEDBERGER), A., ii, 450.
of dithionates (FOERSTER and FRIESSNER), A., ii, 488.
of benzaldehyde (NITHACK), A., i, 291.
of bromoform (COUGHLIN), A., i, 197.
Electrolytic oxidation of naphthalene (PANCHAUD DE BOTTENS), A., i, 752.
of pyruvic acid (ROCKWELL), A., i, 740.
of *p*-toluic acid (LABHARDT), A., i, 289.
Electrolytic phenomena at the surface of separation of two solvents (NERNST and RIESENFELD), A., ii, 594; (HITTORF), A., ii, 642.

ELECTROCHEMISTRY :—
Electrolytic reduction of brucine and of strychnine (TAFEL and NAUMANN), A., i, 53.
of camphorimide (TAFEL and ECKSTEIN), A., i, 43.
of nitric acid in presence of hydrochloric or sulphuric acid (TAFEL), A., ii, 559.
of aromatic nitro-compounds (PINNOW), A., i, 671.
of 2:2′-*di*nitrodiphenyl (WOHLFAHRT), A., i, 509.
of oximes and phenylhydrazones in sulphuric acid (TAFEL and PFEFFERMANN), A., i, 498.
of pyrroles (DENNSTEDT), A., i, 488.
of cyclic ureides (TAFEL and REINDL), A., i, 15.
Electrolytic synthesis of ammonia (DE HEMPTINNE), A., ii, 450.
Electromotive behaviour of hypochlorous and chloric acids (MÜLLER), A., ii, 591.
Electromotive force, researches on (BERTHELOT), A., ii, 440.
of electrolytic cells, influence of the addition of a salt with one similar ion on the (SACKUR), A., ii, 121.
influence of increase of, on the formation of ozone (CHASSY), A., ii, 486.
of metals in cyanide solutions (CHRISTY), A., ii, 193, 440.
Ions, is the action of, a function of the electrical charge? (LOEB), A., ii, 675.
complex, existence of (STEELE), A., ii, 241.
temperature coefficients of the, in water (KOHLRAUSCH), A., ii, 489.
apparatus for determining the relative velocities of (MATHER), A., ii, 300.
measurement of the electrolytic diffusion, transport numbers, and mobility of (STRANEO), A., ii, 241.
numbers of, in metallo-ammonium compounds (PETERSEN), A., ii, 126.
antitoxic effect of (NEILSON), A., ii, 621.
influence of valency on the antitoxic action of (LOEB), A., ii, 162, 219.
Ionic coefficient of nitric acid (VELEY and MANLEY), A., ii, 316.
mobility, apparatus for the demonstration and determination of (ABEGG), A., ii, 194.
phenomena exhibited by triphenylmethane colouring matters (FISCHER), A., i, 717.

ELECTROCHEMISTRY :—
Ionic velocities in aqueous solution, measurement of (STEELE), A., ii, 241; (ABEGG and GAUS), A., ii, 442.
in a flame containing salts (MOREAU), A., ii, 593.
relative, of ions of silver nitrate in solutions of pyridine and acetonitrile (SCHLUNDT), A., ii, 492.
Ionisation, ionic velocities, and atomic sizes (SUTHERLAND), A., ii, 300.
of air (BARUS), A., ii, 59.
of cuprous haloids (BODLÄNDER and STORBECK), A., ii, 502, 607.
spontaneous, of gases (WILSON), A., ii, 240.
Ionised gases, researches on (LANGEVIN), A., ii, 301.
Polarisation in voltaic cells (BERTHELOT), A., ii, 439.
cathodic, and formation of alloys (COEHN), A., ii, 2.
galvanic, transmission of, through platinum and palladium plates (NERNST and LESSING), A., ii, 639.
Depolarisation of the hydrogen electrode by aromatic compounds (PANCHAUD DE BOTTENS), A., ii, 487.
cathodic (BILLITZER), A., ii, 439.
Potentials of alloys, and the formation of superficial layers (HABER and SACK), A., ii, 441; (HABER), A., ii, 638.
of ozone (GRÄFENBERG), A., ii, 449.
Amalgam potentials, and the question whether metals dissolved in mercury are monoatomic (HABER), A., ii, 638.
Discharge potential of hydrogen at a mercury cathode (COEHN and NEUMANN), A., ii, 118.
Reduction-potential of aldehydes (BAUR), A., i, 77.
Potential differences in vapours and in some solid electrolytes (v. HASSLINGER), A., ii, 118.
Transport numbers of ions during electrolysis (HITTORF), A., ii, 58.
of salts, in phenol, determination of the (NERNST and RIESENFELD; RIESENFELD), A., ii, 594.
of very dilute solutions (STEELE and DENISON), T., 456; P., **1902**, 29.
Voltameter (*coulometer*), accuracy of the improved (RICHARDS and HEIMROD), A., ii, 592.

Elements, origin of the (HELLSTRÖM), A., ii, 128.
relations of the (REYNOLDS), T., 612.
classification of the (ARMSTRONG), A., ii, 553.
periodic classification of the (BILTZ), A., ii, 201.
the periodic system of the (STAIG-MÜLLER), A., ii, 129.
properties of, in relation to their atomic mass (RAMAGE), A., ii, 545.
Elemi, various, constituents of (TSCHIRCH and CREMER), A., i, 812.
Embryo-chemical investigations (LEVENE), A., ii, 333.
Emerald from the Uralian Emerald Mines (ZEMJATSCHENSKY), A., ii, 29.
Emulsin (HEUT), A., i, 252.
Enantiomorphism of camphor compounds (MINGUIN), A., i, 798.
Enantiotropy of tin (COHEN), A., ii, 266.
Enterokinase (CAMUS), A., ii, 614.
in snake venom (DELEZENNE), A., ii, 680.
Energy value of diet in man (RUBNER), A., ii, 153.
Enzyme action (BROWN), T., 373; P., **1902**, 41; (BROWN and GLENDINNING), T., 388; P., **1902**, 43.
Enzymes, nature of (BOKORNY), A., i, 128.
in leucocytes and lymph glands which favour tryptic activity (DELEZENNE), A., ii, 616.
in germinating seeds (BOKORNY), A., ii, 418.
from malt, isolation of (LINTNER), A., i, 847.
conversion of pancreatic zymogens into (VERNON), A., ii, 152.
action of heat on (BEEBE), A., i, 655.
action of sunlight on (EMMERLING), A., i, 195.
action of, on each other (WRÓBLEWSKI, BEDNARSKI, and WOJCZYŃSKI), A., i, 196.
action of, on gentiobiose (BOURQUELOT and HÉRISSEY), A., i, 744.
action of, on hemicelluloses (GRÜSS), A., i, 713.
decomposition of carbohydrates by (CLEMM), A., i, 348.
hydrolysis of acid amides and anilides by (GONNERMANN), A., i, 512.
oxidation of propylene glycol by (KLING), A., i, 8.
diastatic, of the suprarenal body (CROFTAN), A., ii, 465.
digestive, chemical nature of (FRIEDENTHAL and MIYAMOTA), A., i, 655.
Enzymes, digestive, of some Lepidoptera (SAWAMURA), A., ii, 673.
fibrin, time law of the (FULD), A., ii, 675.
inorganic (MCINTOSH), A., ii, 310.
pancreatic, synthetic action on dextrose with (HILL), A., ii, 515.
proteid-dissolving, in malt (EHRICH), A., i, 252.
proteolytic, of Nepenthes (VINES), A., ii, 165.
of the spleen (LEATHES), A., ii, 615.
of the thymus (KUTSCHER), A., ii, 153.
tryptic, production of, from its zymogen (BELLAMY), A., ii, 153.
Enzymes. See also :—
Catalase.
Chymosin.
Diastases.
Emulsin.
Enterokinase.
Erepsin.
Hydrogenases.
Invertase.
Jacquemase.
Kinases.
Lipase.
Maltase.
Oxydases.
Papain.
Papayotin.
Pectinase.
Pepsin.
Peptase.
Philothion.
Reductases.
Rennet.
Rennin.
Superoxydases.
Trypsin.
Tyrosinase.
Zymase.
Zymolysin.
Eosin, iodo-, as an indicator in volumetric analysis (GLÜCKSMANN), A., ii, 473.
Epidote from Phillippopel (KOVÁŘ), A., ii, 328.
from Phippsburg, Maine (HILLEBRAND), A., ii, 463.
Episosine and its identity with 4:5-diphenylene-1-methyliminoazole (VAHLEN), A., i, 727.
physiological action of (VAHLEN), A., i, 818.
Epithelium, ciliated, action of fluorescent materials on (JACOBSON), A., ii, 38.
Epsomite from German East Africa (BORNHARDT and KÜHN), A., ii, 667.

Equation of fluids, numerical studies on the (MALLET and FRIDERICH), A., ii, 644.

EQUILIBRIUM :—

Phase rule, application of the, to the fusing points of copper, gold, and silver (RICHARDS), A., ii, 455.

Equilibrium between a solid and its saturated solution at various temperatures (LUMSDEN), T., 363; P., **1902**, 31.

in systems of three components, the formation of two liquid phases being possible (MEERBURG), A., ii, 495.

in the system—sodium carbonate, ethyl alcohol, and water (KETNER), A., ii, 308.

heterogeneous, between mixed isomorphous crystals of hydrated salts (BRUNI and MEYERHOFFER), A., ii, 308.

Ternary systems, synthetic analysis in (BROWNE), A., ii, 648.

folding point curves in (SCHREINEMAKERS), A., ii, 61.

Phases, solid, synthetic analysis of (BANCROFT), A., ii, 495.

Vapour phase, composition of the, in the system, water-acetone-phenol (SCHREINEMAKERS), A., ii, 243, 380, 599.

Equilibrium, chemical. See **Affinity.**

Erepsin (COHNHEIM), A., ii, 413, 673.

presence of, in the intestinal juice of dogs (SALASKIN), A., ii, 571.

functions of (COHNHEIM), A., ii, 93.

action of, on abrin and toxins (SIEBER and SCHUMOFF-SIMONOWSKI), A., ii, 680.

Ergot of rye (GUÉDRAS), A., ii, 162.

"**Erika,**" isomerides of the base of the dye (SCHULTZ and TICHOMIROFF), A., i, 401.

Erythritol, magnetic rotation of (PERKIN), T., 187; P., **1901**, 256.

action of selenyl chloride on (CHABRIÉ and JACOB), A., i, 657.

l-**Erythritol,** synthesis and properties of (MAQUENNE), A., i, 131.

d-**Erythronic acid,** and its salts (MORRELL and CROFTS), T., 668; P., **1902**, 55; (MORRELL), A., i, 531.

i-**Erythrulosephenylmethylosazone** (NEUBERG), A., i, 660.

Esmeraldaite from Esmeralda Co., Nevada (EAKLE and SCHALLER), A., ii, 213.

Esterification of acids with phenols (BAKUNIN), A., i, 370.

quantitative, of alcohols and phenols (VERLEY and BÖLSING), A., ii, 54.

Esterification of phosphorous acid by glycerol and glycol (CARRÉ), A., i, 131.

of *as*-di- and poly-basic acids (WEGSCHEIDER), A., i, 617, 618, 619, 620; (WEGSCHEIDER and PIESEN), A., i, 619.

in plants, mechanism of (CHARABOT and HÉBERT), A., ii, 99.

Esters, synthesis of, by the action of magnesium organic compounds on *β*-ketonic esters (GRIGNARD), A., i, 420.

of carboxylic and sulphonic acids, hydrolysis of (WEGSCHEIDER), A., ii, 493.

of hydroxy-acids, action of phenylcarbimide on (LAMBLING), A., i, 537, 603, 756.

of organic acids, action of, on tertiary bases (WILLSTÄTTER and KAHN), A., i, 662.

action of alcohols on (HENRY), A., i, 736.

fatty, *α*-brominated, condensation of, with trioxymethylene (BLAISE), A., i, 357.

Ethane, formation of (MOISSAN), A., i, 253.

thermal properties of (KUENEN and ROBSON), A., ii, 595.

and hydrogen chloride, isotherms for mixtures of (QUINT GZN), A., ii, 60.

Ethane, *tetra*bromo*di*nitro- and *tetra*chloro*di*nitro- (BILTZ), A., i, 417.

mono- and *di*-chloronitroso- (PILOTY and STEINBOCK), A., i, 736.

fluorobromo- and fluoroiodo-derivatives of (SWARTS), A., i, 129.

Ethanedicarboxylic acid. See Succinic acid.

Ethanesulphonanilide (AUTENRIETH and RUDOLPH), A., i, 22; (DUGUET), A., i, 429.

Ethanetetracarboxylic acid, ethyl ester (IPATIEFF and SWIDERSKI), A., i, 132.

Ethanetricarboxyltriamide (GUTHZEIT and JAHN), A., i, 659.

Ethanol-methylamine and **-nitrosomethylamine,** benzoyl derivatives of (MARCKWALD and FROBENIUS), A., i, 23.

Ethenylphenylhydrazidine hydrochloride (VOSWINCKEL), A., i, 845.

Ethenyl-3:4-tolylenediamine (FISCHER, RIGAUD, and KOPP), A., i, 189.

Ether. See Ethyl ether.

Ether explosions (V. NEANDER), A., i, 527.

Ethereal sulphate, formation of, in the organism (EMBDEN and GLAESSNER), A., ii, 158.

Etherification of alcohols (FISCHER and WEISS), A., i, 402; (VERLEY and BÖLSING), A., ii, 54.

Ethers, $C_2H_5O_2Cl$, and $C_3H_7O_3Cl$, from the action of hydrogen chloride on aqueous formaldehyde (COOPS), A., i, 77.

simple, velocity of formation of (ROSENFELD-FREIBERG), A., ii, 492.

decomposition of (NEF), A., i, 8.

disappearance of, normally existing in the blood (DOYON and MOREL), A., ii, 571, 672.

Ethers. See also :—

Acetals.
Alizarin methyl ether.
Anæthole.
Anethole.
Anisole.
3-Anisylpyridazine.
Anthragallol dimethyl ether.
Anthranols, ethers of.
Anthrarufin ethyl ethers.
Anthronedimethylacetal.
*iso*Apiole.
Benzeneazobromo-α-naphthol ethyl ether.
6-Benzoyl-1:2:4- and -1:4:2-xylenol methyl ethers.
Benzylidene-β-dinaphthyl oxide.
Butenylphenetole.
4-*iso*Butoxy-1-α-hydroxypropylbenzene.
Butyracetal.
Butyrylphenetole.
Cresols, methyl ethers of.
Crotonacetal.
ψ-Cumenol ethyl ether.
Dianisylphenylmethane.
Dichrysarobin methyl ether.
1:3-Diethoxybenzene.
Diethoxydimethyl ether.
2:4′-Dihydroxydiphenylmethane dimethyl and diethyl ethers.
Dihydroxymethoxymethylbenzene.
2:3-Dihydroxynaphthalene methyl and ethyl ethers.
Dihydroxyphenoxide.
1:3-Dimethoxybenzene.
2:4-Dimethoxydimethyl-5-bromomethyl-1-phenol.
2:7-Dimethoxynaphthalene.
Dimethoxyphenoxide.
Dimethylaminodimethylacetal.
4:4′-Dimethyldiphenylene oxide.
2:2′-Diphenol dimethyl and ethylene ethers.
Dithymolylamine ethyl ethers.
4-Ethoxy-1-allylbenzene.
Ethoxybenzene.
Ethoxy*iso*eugenol.
4-Ethoxy-1-α-hydroxybutylbenzene.

Ethers. See :—

4-Ethoxy-1-α-hydroxypropylbenzene.
2-Ethoxymethyl-4-propenylcatechol ether.
6-Ethoxy-3-methylpyridazine.
6-Ethoxy-3-phenyl-5-methylpyridazine.
p-Ethoxytriphenylcarbinyl ethylether.
p-Ethoxytriphenylmethane.
Ethylcatechol diethyl ether.
Ethyl ether.
Ethylene glycol methyl and propyl ethers.
Ethylene oxide.
Ethyl*iso*eugenol.
Ethyl propyl ether.
Ethylpyrogallol triethyl ether.
Eugenol methyl ether.
Euxanthone methyl ethers.
Excoecarin dimethyl ether.
Gallacetophenone methyl ethers.
Hexylene oxide.
Homocatechol dimethyl ether.
Homoveratrole.
β-Hydroxybutyracetal.
1-Hydroxycamphene methyl and ethyl ethers.
Hydroxy-ψ-cumylene *m*-glycol, *tri*-bromo-, dimethyl ether.
Hydroxydibenzylanthracene ethyl ether.
α-Hydroxydihydro*iso*eugenol ethers.
α-Hydroxy-*p*-ethylphenol α-methyl and -ethyl ethers.
5-Hydroxy-5-phenyl-10-methyl-5:10-dihydroacridine, ethers of.
o-Hydroxy-*p*-xylyl alcohol, methyl ether of.
Hydroxy-*p*-xylylene bromohydrin, methyl ether of.
Hystazarin dimethyl ether.
Methoxides.
Methoxybenzene.
Methoxydihydroanthracene.
α-Methoxy-*p*-ethylphenol.
4-Methoxy-1-α-hydroxypropylbenzene.
6-Methoxy-3-methylpyridazine.
p-Methoxy-ω-nitrostyrene.
Methoxyphenanthrenes.
6-Methoxy-3-phenyl-5-methylpyridazine.
p-Methoxytriphenylcarbinol, ethers of.
p-Methoxytriphenylmethane.
Methyl *di*fluoroethyl ether.
Methyleneoxide diacetate.
Methyl*iso*eugenol.
Methylglyceraldehyde, acetal of.
Methylphloroglucinol alkyl ethers.
Myricetin pentamethyl and hexaethyl ethers.
α-Naphthol methyl and ethyl ethers.
1-β-Naphthoxyethylpiperidine.

Ethers. See :—
Oxanthranyl methyl ether.
2-Phenanthryl methyl and ethyl ethers.
Phenetole.
Phenyl ethers.
Phenyldianisylmethane.
Phenyl tolyl ethers.
Phloroglucinol, ethers of.
Propionylanisole.
p-Propionyl*iso*butoxybenzene.
Propionylphenetole.
4-*iso*Propyldihydroresorcin ethyl ether.
Purpurogallin trimethyl ether.
Pyrogallol di- and tri-ethyl ethers.
Pyromeconyl ethyl ether.
Resorcinol methyl ether.
Safrole.
*iso*Safrole.
Storesinol methyl ether.
Succintetraethylacetal.
Terpene ethers.
Tetramethyl*di*aminobenzhydrol, ethers of.
Tetramethyl*di*aminodiphenylmethyl oxide.
Thymyl ethyl ether.
Tolyl methyl ethers.
Tri-*p*-anisylchloromethane.
Trianisylmethane.
2:3:8-Trihydroxynaphthalene trimethyl ether.
Triphenyl-*p*-anisylmethane.
Undecyl ether.
Veratrole.

Ethoxide, thallium, density, and refractive and dispersive powers of (KAHLBAUM, ROTH, and SIEDLER), A., ii, 260.

4-Ethoxy-1-allylbenzene. See Anæthole.

Ethoxyanilinophosphoric acid, barium salt (CAVEN), T., 1371.

Ethoxyanilinophosphoryl amide and chloride (CAVEN), T., 1371 ; P., **1901**, 26.

4-Ethoxyazoxybenzene, 3:5-*di*bromo- (JACKSON and FISKE), A., i, 362.

m-**Ethoxybenzaldehyde** and its phenylhydrazone, *tetra*chloro- (BILTZ and KAMMANN), A., i, 162.

Ethoxybenzene, *di*bromoamino- (JACKSON and FISKE), A., i, 362.

2-Ethoxybenzonitrile and 3:5-*di*nitro- (BLANKSMA), A., i, 281.

p-**Ethoxybenzyl** cyanide (WERNER), A., i, 627.

7-Ethoxy-2-benzylchromone (HANNACH and v. KOSTANECKI), A., i, 304.

4-Ethoxy-4-*iso*butylquinolnitrolic acid, 3:5-*di*nitro-, potassium salt (MEISENHEIMER), A., i, 797.

6-Ethoxychromone and its **2-carboxylic acid** (DAVID and v. KOSTANECKI), A., i, 690.

4-(or 5-)Ethoxydeoxybenzoin-2-carboxylic acid and amide (ONNERTZ), A., i, 99.

4′-(or 5′-)Ethoxydeoxybenzoin-2′-carboxylic acid, and its oxime, and the lactone of the oximic acid (ONNERTZ), A., i, 100.

4-(or 5-)Ethoxydibenzyl-2-carboxylic acid (ONNERTZ), A., i, 100.

6-Ethoxy-1:3-diketo-2-phenylhydrindene (ONNERTZ), A., i, 99.

4-Ethoxy-2:6-dimethylnicotinic acid and its salts and hydrochloride (MICHAELIS and HANISH), A., i, 823.

2-Ethoxy-4:6-dimethylpyrimidine and its compound with mercuric chloride, and 5-bromo-derivative (ANGERSTEIN), A., i, 123.

3-Ethoxy-1:5-diphenyl-1:2:4-triazole (WHEELER and BEARDSLEY), A., i, 503.

Ethoxy*iso*eugenol (POMERANZ), A., i, 93.

δ-Ethoxy-β-hexanone-ε-carboxylamide-γ-carboxylic acid, ε-cyano-, and its ethyl ester (ERRERA), A., i, 117.

Ethoxyhydrocotarnine (FREUND and BAMBERG), A., i, 557.

4-Ethoxy-1-α-hydroxybutylbenzene (KLAGES), A., i, 610.

4-Ethoxy-1-α-hydroxypropylbenzene and its acetate and phenylurethane (KLAGES), A., i, 609.

Ethoxyindone, chloro- (GLAWE), A., i, 782.

d-**Ethoxyindophenazines**, **α-** and **β-** (BURACZEWSKI and MARCHLEWSKI), A., i, 121.

3-Ethoxy-5-keto-1-phenyl-2:5-dihydrotriazole (ACREE), A., i, 242.

2-Ethoxymethyl-4-propenylcatechol ether. See Ethoxy*iso*eugenol.

6-Ethoxy-3-methylpyridazine (POPPENBERG), A., i, 61.

3-Ethoxyphenanthraquinone (WERNER), A., i, 627.

3-Ethoxyphenanthrene-10-carboxylic acid (WERNER), A., i, 628.

p-**Ethoxyphenylacetic acid** and its amide (WERNER), A., i, 627.

α-*p*-Ethoxyphenyl-*o*-amino- and **-*o*-nitrocinnamic acids** (WERNER), A., i, 627.

6-(or 7-)Ethoxy-3-phenyl-1-benzylphthalazone (ONNERTZ), A., i, 99.

6-(or 7-)Ethoxy-3-phenyl*iso*carbostyril (ONNERTZ), A., i, 100.

6-(or 7-)Ethoxy-3-phenyl*iso*coumarin, and its dihydride, and the 4-bromo-derivative of the dihydride (ONNERTZ) A., i, 100.

6-Ethoxy-3-phenyl-5-methylpyridazine and its salts (OPPENHEIM), A., i, 187.
6-(or 7-)Ethoxy-3-phenyl*iso*quinoline, 1-chloro- (ONNERTZ), A., i, 100.
p-**Ethoxyphenylsuccinamic acid** and its alkyl substituted derivatives (GILBODY and SPRANKLING), T., 789; P., **1900**, 224.
p-**Ethoxyphenylsuccinimide.** See Pyrantin.
p-**Ethoxyphenyl-thiocarbamide** and **-cyanamide** and its polymeride (HELLER and BAUER), A., i, 445.
β-**Ethoxyphthalylacetic acid** (ONNERTZ), A., i, 99.
3-Ethoxyquinaldine (KOENIGS and STOCKHAUSEN), A., i, 693.
4-(or 5-)Ethoxystilbene-2-carboxylic acid (ONNERTZ), A., i, 99.
p-**Ethoxysuccinanilic acid.** See *p*-Ethoxyphenylsuccinamic acid.
Ethoxysulphinic acid, ammonium salt (GOLDBERG and ZIMMERMANN), A., i, 738.
Ethoxy-*p*-toluidinophosphoric acid, barium salt (CAVEN), T., 1372.
Ethoxy-*p*-toluidinophosphoryl amide and chloride (CAVEN), T., 1372; P., **1902**, 26.
p-**Ethoxytriphenylcarbinyl ethyl ether** and *di*bromo- (BISTRZYCKI and HERBST), A., i, 777.
p-**Ethoxytriphenylmethane** and *di*-bromo- (BISTRZYCKI and HERBST), A., i, 777.
Ethyl alcohol, synthesis of (FRITZSCHE), A., i, 657.
pure, preparation of, from strong spirit (YOUNG), T., 707; P., **1902**, 104.
properties of mixtures of, with benzene, and with benzene and water (YOUNG and FORTEY), T., 741; P., **1902**, 105.
properties of mixtures of, with water (YOUNG and FORTEY), T., 719; P., **1902**, 105.
velocity of reaction of bromine on (BUGARSZKY), A., ii, 9.
equilibrium between sodium carbonate, water, and (KETNER), A., ii, 308.
action of magnesium amalgam on (MEUNIER), A., i, 335.
action of phosphorus trithiocyanate on (DIXON), T., 168; P., **1901**, 260.
compounds of, with chromium haloids (KOPPEL), A., ii, 83.
compounds of, with cobalt and manganese chlorides (BOURION), A., i, 334.
formation of hydrates of (SCHMATOLLA), A., ii, 645.
in milk (TEICHERT), A., ii, 348.
Ethyl alcohol, a food or a poison? (KASSOWITZ), A., ii, 573.
and proteid metabolism (NEUMANN), A., ii, 154; (ROSEMANN), A., ii, 274.
action of, on muscle (LEE and SALANT), A., ii, 274, 675.
detection of methyl alcohol in (HABERMANN and OESTERREICHER), A., ii, 110; (SCHOORL), A., ii, 703.
estimation of, by Nicloux's method (POZZI-ESCOT), A., ii, 233.
estimation of, in ether (FREYER), A., ii, 53.
Ethyl chloride, dielectric constant of, and the influence of temperature on it (EVERSHEIM), A., ii, 596.
chlorocarbonate, *αββδ-tetra*chloro- (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 78.
Ethyl ether, dielectric constant of, and the influence of temperature on it (EVERSHEIM), A., ii, 596.
compound of, with ferrocyanic acid (BROWNING), A., i, 208.
estimation of alcohol in (FREYER), A., ii, 53.
Ethyl ether, *di*fluoro- (SWARTS), A., i, 130.
Ethyl iodide, action of potassium hydride on (MOISSAN), A., i, 253.
action of, on potassium stannite (PFEIFFER), A., i, 749.
Ethyl nitrate, nitration with (WISLICENUS and ENDRES), A., i, 541.
Ethyl propyl ether, *di*fluoro- (SWARTS), A., i, 130.
Ethylamine, action of, on cuminaldehyde and furfuraldehyde (SCHWABBAUER), A., i, 230.
4-Ethyl-3-amylpyrazolone (LOCQUIN), A., i, 704.
Ethylaniline, action of formaldehyde on (GOLDSCHMIDT), A., i, 716.
oxidation of (BAMBERGER and VUK), A., i, 275.
Ethylbenzene, *p*-iodo-, and iodo*di*-chloride (KLAGES and STORP), A., i, 670.
o- and *p*-nitro-, and the sodium sulphonate of the para-compound (SCHULTZ and FLACHSLÄNDER), A., i, 751.
Ethylbiuret (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1572.
Ethyl-*p-tert.*-butylphenyliodonium salts, *di*chloro- (WILLGERODT and RAMPACHER), A., i, 19.
Ethylbutyrylacetic acid, ethyl ester (LOCQUIN), A., i, 705.
Ethylcarboxyaconitic acid (*penteneteracarboxylic acid*), ethyl ester (RUHEMANN), T., 1214; P., **1902**, 181.

Ethylcatechol and its acetyl derivative and diethyl ether, and bromonitro- and nitro-derivatives of the ether (HIRSCHEL), A., i, 540.

Ethylene, production of, from inorganic sources (TUCKER and MOODY), A., i, 1.

heat of combustion and of dissociation of (MIXTER), A., ii, 60.

Ethylene, *tetra*bromo- and *tetra*chloro-, oxidation of (BILTZ), A., i, 417.

fluoro- and fluorobromo- derivatives of (SWARTS), A., i, 129.

Ethylene glycol, specific heat and heat of vaporisation of (LUGININ), A., ii, 548.

action of phosphorus trichloride on (CARRÉ), A., i, 338.

mono-methyl and -*n*-propyl ethers and the acetate of the methyl ether (PALOMAA), A., i, 737.

Ethylene oxide (WALKER), A., i, 170; (BREDIG), A., i, 230.

action of magnesium organic compounds on (BLAISE), A., i, 357.

Ethylenebistetrahydro*iso*quinoline (WEDEKIND), A., i, 643.

Ethylenebis-1-tetrahydro*iso*quinoline-1-acetic acid diiodide, ethyl ester, and its isomeride (WEDEKIND), A., i, 643.

Ethylenediamine, compounds of, with mercuric salts (CHEMISCHE FABRIK AUF AKTIEN), A., i, 348.

carbonate (CHEMISCHE FABRIK AUF AKTIEN), A., i, 84.

Ethylenediaminechromium salts (PFEIFFER), A., i, 138.

Ethylenedicarboxylic acid. See Fumaric acid.

Ethylenepiperidinium chloride and its salts, and isomeride (MARCKWALD and FROBENIUS), A., i, 24.

Ethylenetrimethylenedipiperidylium bromide (SCHOLTZ), A., i, 835.

Ethylene-*o*-, -*m*-, and -*p*-xylylenedipiperidylium bromides, and their salts (SCHOLTZ), A., i, 836.

Ethyl*iso*eugenol *di*bromide, action of methyl alcohol on (POND, ERB, and FORD), A., i, 450.

Ethylfluorene (WISLICENUS and DENSCH), A., i, 291.

β-Ethylgalactoside (FISCHER and ARMSTRONG), A., i, 746.

Ethylhexoylacetic acid, ethyl ester (LOCQUIN), A., i, 704.

Ethylhydroxycarbamide (FRANCESCONI and PARROZZANI), A., i, 140.

Ethylhydroxyoxamide and its hydroxylamine salt and acetyl derivative (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1572; P., **1902**, 197.

Ethylideneacetoacetic acid, ethyl ester, formula of (GRIGNARD), A., i, 421.

Ethylidenebisacetoacetic acid, diethyl ester (RABE and ELZE), A., i, 710.

α-Ethylidenediglutaconic acid, ethyl ester (HENRICH), A., i, 422.

α-Ethylideneglutaric acid (*pentenedicarboxylic acid*), physical constants of (FICHTER and MÜHLHAUSER), A., i, 204.

***i*-Ethylidenelactic acid.** See Lactic acid.

***p*-Ethylidenequinone,** *tetra*-, *penta*-, and *hexa*-bromo- (ZINCKE, SIEBERT, and REINBACH), A., i, 608.

Ethyl-*s*-iodonitrophenyliodonium salts, *di*chloro- (WILLGERODT and ERNST), A., i, 118.

α-Ethylluteolin and its tetra-acetyl derivative (v. KOSTANECKI and RÓŻYCKI), A., i, 105.

Ethylmalonamic acid, ethyl ester (FISCHER and DILTHEY), A., i, 270.

Ethylmercaptohydrocotarnine and its methiodide (FREUND and BAMBERG), A., i, 557.

14-Ethyl-$\beta_1\beta_2\alpha'_1\beta'_1$-naphthacridone (STROHBACH), A., i, 183.

Ethyl-β-naphthylamine camphorsulphonate (REYCHLER), A., i, 757.

Ethylolhomonicotinic acid, lactone of, and its salts (KOENIGS), A., i, 180.

***o*-Ethylphenol** (STOERMER and KAHLERT), A., i, 457.

bromo-derivatives of, and their acetates (ZINCKE, SIEBERT, and REINBACH), A., i, 605.

ψ-*p*-Ethylphenol, bromo-derivatives of (ZINCKE, SIEBERT, and REINBACH), A., i, 606; (ZINCKE and LEISSE), A., i, 615.

1-Ethylpiperidine, chloro-, and its salts, and isomeride (MARCKWALD and FROBENIUS), A., i, 24.

3-Ethylpiperidyl-4-ethanol and its aurichloride (KOENIGS), A., i, 395.

Ethylpiperonylcarboxylic anhydride, ω-amino- (DOBBIE and LAUDER), T., 159; P., **1901**, 256.

Ethyl propyl ketone and its semicarbazone (BLAISE), A., i, 164.

4-Ethyl-3-propylpyrazolone (LOCQUIN), A., i, 705.

2-Ethylpyridine, condensation of, with formaldehyde (KOENIGS and HAPPE), A., i, 394.

3-Ethylpyridine-4-carboxylic acid (KOENIGS), A., i, 395.

3-Ethylpyridyl-4-ethanol and its salts (KOENIGS), A., i, 395.

3-Ethyl-4-pyridylpropanediol and its salts (KOENIGS), A., i, 394.

Ethylpyrogallol triethyl ether and its nitro-derivatives (HIRSCHEL), A., i, 540.
1-Ethyl-2-quinolone, nitro-derivatives (DECKER), A., i, 494.
Ethylsalicylidenecamphor, crystallographic properties of (MINGUIN), A., i, 632.
p-**Ethylstyrene** (KLAGES), A., i, 612.
1-Ethyltetrahydroquinoline-6-, **-7-**, and **-8-carboxylic acids** (FISCHER and ENDRES), A., i, 693.
2-Ethyltetrahydro*iso*quinoline and its salts, and compound with ethyl iodoacetate and benzyl iodide (WEDEKIND and OECHSLEN), A., i, 118.
α-Ethylthio-butyranilide, **-glycollanilide**, and **-lactanilide** (BECKURTS and FRERICHS), A., i, 764.
m-**Ethyltoluidine**, *p*-nitro- (FISCHER, RIGAUD, and KOPP), A., i, 189.
m-**Ethyl-*o*-tolylenediamine** (FISCHER, RIGAUD, and KOPP), A., i, 189.
4-Ethyl-3:4-tolylenediamine, and its diacetyl derivative (FISCHER, RIGAUD, and KOPP), A., i, 189.
Ethyltrioxymethylene chloride (COOPS), A., i, 258.
8-Ethylxanthine (BOEHRINGER & SÖHNE), A., i, 125.
Eucaine, **α-** and **β-**, identification and properties of (PARSONS), A., i. 231.
Eucalyptus oils, aromatic acids and aldehydes from (SMITH), A., i, 102.
constituent of peppermint-like odour in (SMITH), A., i, 108.
amyl eudesmate in (SMITH), A., i, 109.
sesquiterpene of (SMITH), A., i, 229.
Eudesmic acid and its salts (SMITH), A., i, 109.
Eugenol methyl ether from the oil of *Asarum canadense* (POWER and LEES), T., 67; P., **1901**, 210.
estimation of, in oil of cloves (VERLEY and BÖLSING), A., ii, 54.
*iso***Eugenol** *di*bromide and bromo-, and their reactions and acetyl derivatives (AUWERS and MÜLLER), A., i, 212.
Eurotyopsis Gayoni, assimilation of lactic acid and glycerol by (MAZÉ), A., ii, 346.
assimilation of sugar and alcohol by (MAZÉ), A., ii, 345.
zymase of (MAZÉ), A., ii, 622.
Euxanthic acid and its salts and acetyl derivatives (GRAEBE, ADERS, and HEYER), A., i, 39.
Euxanthone methyl ethers (GRAEBE and ADERS), A., i, 42.
Excoecarin and its tribenzoyl derivative and dimethyl ether (PERKIN and BRIGGS), T., 212; P., **1902**, 11.
Excoecarone (PERKIN and BRIGGS), T., 215; P., **1902**, 11.
Excretion of allantoin (MENDEL), A., ii, 276.
of glycuronic acid (MAYER), A., ii, 616.
of glycuronic acid, indoxyl, and phenol in phloridzin diabetes (LEWIN), A., ii, 272; (MAYER), A., ii, 520.
of lithium (GOOD), A., ii, 276.
of phosphoric acid in flesh and vegetable feeders (BERGMANN), A., ii, 276.
See also Urine.
Expansion of liquids, formula for the (MALLET and FRIDERICH), A., ii, 644.
Expansion coefficient of magnesium chloride solutions (BREMER), A., ii, 76.
of volatile oils (SCHREINER and DOWNER), A., i, 108.
Extraction apparatus (STEPHANI and BÖCKER), A., ii, 556.
for liquids by chloroform (PREGL), A., ii, 202.
for solvents with high and low boiling points (LANDSIEDL), A., ii, 390.

F.

Fabrics, estimation of indigotin in (BINZ and RUNG), A., ii, 544.
Factories, air of (HALDANE), A., ii, 671.
Fæces, combined glycuronic acid in normal (BIAL; BIAL and HUBER), A., ii, 679.
solution and estimation of coagulated proteids in (OEFELE), A., ii, 369.
human, purine derivatives in (KRÜGER and SCHITTENHELM), A., ii, 412.
analysis of (URY), A., ii, 159.
Fahlerz from New Jersey (CHESTER), A., ii, 611.
Faraday's law and its range of validity (BOSE), A., ii, 299.
Farmyard manure. See Agricultural Chemistry.
Fat, human, composition of (JAECKLE), A., ii, 676.
composition of the, in children (SIEGERT), A., ii, 34.
formation of, from carbohydrate diet (LEHMANN and VOIT), A., ii, 155.
iodised, formation of, in the mammary glands (JANTZEN), A., ii, 273.
respiratory exchange during the deposition of (PEMBREY), A., ii, 149.
refractive indices of—correction for temperature (TOLMAN and MUNSON), A., ii, 709.

Fat, determination of the solidifying point of (SHUKOFF), A., ii, 196.
action of superheated steam on (KLIMONT), A., i, 202.
influence of, on proteid metabolism (TALLQVIST), A., ii, 273.
transference of, in phosphorus poisoning (KRAUS and SOMMER), A., ii, 342.
absorption of (PFLÜGER), A., ii, 155, 273.
feeding experiments with, on the milk of goats and sheep (BEGER, DOLL, FINGERLING, HANCKE, SIEGLIN, ZIELSTORFF and MORGEN), A., ii, 101.
amount of, in milk as milking proceeds (ACKERMANN), A., ii, 168, 466.
variation of the amount of, in milk (MALPEAUX and DOREZ), A., ii, 40.
effect of feeding on the amount of, in milk (MALPEAUX and DOREZ), A., ii, 168; (MALPEAUX and DELATTRE), A., ii, 526; (SJOLLEMA), A., ii, 527.
behaviour of, during autolysis of the liver (SIEGERT), A., ii, 34.
proportion of liquid fatty acids in, and their iodine values (LANE), A., ii, 184.
animal, mixed glycerides in (HANSEN), A., i, 339.
formation of sugar from (LOEWI), A., ii, 273.
of hens' eggs (THORPE), A., ii, 95.
dark coloured, sharp indicator for titrating (FREUNDLICH), A., ii, 115.
application of iodine bromide in the analysis of (HANUŠ), A., ii, 112; (JUNGCLAUSSEN), A., ii, 294.
detection of vegetable fats in animal, by the phytosteryl acetate test (BÖMER), A., ii, 184.
estimation of, in bread, and its nature (BERNTROP), A., ii, 366.
estimation of, in fodders (BEGER), A., ii, 367.
estimation of, in milk by means of the refractometer (HALS and GREGG), A., ii, 708.
in sheep's milk, use of Gerber's apparatus for the estimation of (BEGER and WOLFS), A., ii, 482.
quantitative separation of cholesterols from (RITTER), A., ii, 111.

Fats. See also :—
Butter.
Lard.
Margarine.
Milk.
Tallow.
Wool fat.

Fat mixtures, calculation of the percentage of diglycerides in, containing hydroxy-fatty acids (FREUNDLICH), A., ii, 184.

Fatty series, substitution process in the (MICHAEL, GRAVES, and GARNER), A., i, 69.

Felspar from Southern Bohemia (ZELIZKO), A., ii, 332.

Fenchene, formula of (KONDAKOFF), A., i, 478; (WALLACH), A., i, 685.

Fenchone, some reactions of (TARDY), A., i, 632.

Fenchoneimine and its oxidation and transformation by atmospheric oxidation, and its methyl iodide and picrate (MAHLA), A., i, 106.

Fenchyl alcohol, formula of (KONDAKOFF), A., i, 478.

l-**Fenchylxanthamide** (TSCHUGAEFF), A., i, 630.

Fermentation, theory of (RICHTER), A., ii, 681.
of cellulose (OMELIANSKI), A., ii, 468.
of sucrose by a mucus-forming bacillus (SCHARDINGER), A., ii, 469.
aërobic, of farmyard manure (DUPONT), A., ii, 577.
alcoholic, formation of volatile acids and hydrogen sulphide in (SEIFERT), A., ii, 98.
production of hydrogen sulphide in (POZZI-ESCOT), A., ii, 577.
of the must of Indian figs (ULPIANI and SARCOLI), A., ii, 164.
butyric (SCHATTENFROH), A., ii, 467.
lactic (BEYERINCK), A., ii, 97.

Fermentation process, animal (WEINLAND), A., ii, 155, 412.

Ferments. See Enzymes.

Ferribenzoylacetic acid and **Ferrioxaloacetic acid**, ethyl esters (HANTZSCH and DESCH), A., i, 708.

Ferric compounds. See under Iron.

Ferricyanic acid, thallium and potassium thallium salts (FISCHER and BENZIAN), A., i, 272.

Ferrisalicylic acid (HANTZSCH and DESCH), A., i, 708.

Ferrocyanic acid, compound of, with ether (BROWNING), A., i, 208.
compounds of, with organic oxygen compounds (v. BAEYER and VILLIGER), A., i, 356.

Ferrocyanic acid, thallium and potassium thallium salts (FISCHER and BENZIAN), A., i, 272.

Ferromolybdenum, estimation of molybdenum in (BRAKES), A., ii, 533.

Ferrosilicon, condition of silicon in (LEBEAU), A., ii, 135.

Ferrosilicon, estimation of silicon in (RAMORINO), A., ii, 355; (NORRIS), A., ii, 474.
Ferrous compounds. See under Iron.
Fever, proteid metabolism in (WEBER), A., ii, 277.
Fibrin, catalytic properties of (POZZI-ESCOT), A., i, 654.
peptic digestion of (PICK), A., ii, 673.
Fibrin ferment, time law of the (FULD), A., ii, 675.
Fibrinogenous substance in egg-white (GAUTIER), A., ii, 622.
Fibroin from silk, hydrolysis of (FISCHER and SKITA), A., i, 654.
Figs, Indian, alcoholic fermentation of the must of (ULPIANI and SARCOLI), A., ii, 164.
Filicyl-*n*-butanone, and its bromo-derivative, salts, hydrate, and phenylcarbamide (BOEHM), A., i, 36.
Filixic acid, constitution of (BOEHM), A., i, 38.
Filter paper, a source of error in chemical analysis (MANSIER), A., ii, 690.
Fire-clay from Moravia (KOVÁŘ and HAŠKOVEC), A., ii, 31.
Fish, coagulation of the blood of (RODIER), A., ii, 215.
American, ichthylepidin in the scales of (GREEN and TOWER), A., ii, 415.
Fish gill, physiology of the (FREDERICQ), A., ii, 151.
Flames, coloured, method for the production of (STSCHEGLAYEW), A., ii, 57.
electrical conductivity of (DE HEMPTINNE), A., ii, 119.
phenomenon observed in the inversion of (MAMELI and COMELLA), A., ii, 4.
Flasks, volumetric, instrument for marking (WILLIAMS), A., ii, 391.
Flavaspidic acids, α- and β-, and their diacetyl and tribenzoyl derivatives (BOEHM), A., i, 37.
Flavone group, dyeing properties of some members of the (PERKIN and WILKINSON), T., 589.
Florence's crystals (BOCARIUS), A., ii, 274.
Flour, estimation of starch in (GIANTURCO), A., ii, 705.
Fluidity of sodium chloride solutions, temperature variations of the (LYLE and HOSKING), A., ii, 440.
Fluoran nitrate and sulphate (HEWITT and TERVET), T., 664; P., **1902**, 86.
Fluorene and its **carboxylic acid**, synthesis of (DELACRE), A., i, 783.
Fluorene, potassium derivative of (AKTIEN GESELLSCHAFT FÜR THEER- & ERDÖL-INDUSTRIE), A., i, 364.
Fluorene, 2-*mono*- and 1:2-*di*-amino- and 1- and 7-nitro-2-amino- (DIELS, SCHILL, and TOLSON), A., i, 758.
Fluoreneoxalic acid, phenylhydrazone of, and oxime and benzoyl derivatives of the ethyl ester (WISLICENUS and DENSCH), A., i, 291.
Fluorenequinoline and its derivatives (DIELS and STAEHLIN), A., i, 829.
Fluorenetetrahydroquinoline and its nitroso-, nitrosoamine and phenylcarbimide derivatives (DIELS and STAEHLIN), A., i, 829.
Fluorenone-5-carboxylic acid and chloride (GÖTZ), A., i, 372.
Fluorenonequinoline and its methiodide (DIELS and STAEHLIN), A., i, 830.
Fluorescein, $C_{30}H_{18}O_5$, from diphenyltetrenecarboxylic anhydride and resorcinol (LANSER and HALVORSEN), A., i, 459.
Fluorescein hydrochloride and sulphates (HEWITT and TERVET), T., 665; P., **1902**, 86.
bromonitro-derivatives, and their diacetyl and dibenzoyl derivatives and sodium salts (HEWITT and WOODFORDE), T., 893; P., **1902**, 128.
Fluorescence, theory of (VOIGT), A., ii, 57.
Fluorescent materials, action of, on ciliated epithelium (JACOBSON), A., ii, 38.
Fluorindine, $C_{36}H_{21}N_5Cl_4$, from 5:4′-dichloro-2-aminodiphenylamine (WILBERG), A., i, 314.
Fluorindine, new synthesis of (NIETZKI and SLABOSZEWICZ), A., i, 125.
Fluorine, amount of, in bones and teeth (JODLBAUER and BRANDL), A., ii, 34.
Hydrofluoric acid (*hydrogen fluoride*), estimation of, in aqueous solution (WINTELER), A., ii, 287.
Fluorides, detection of, in butter (O. and C. W. HEHNER), A., ii, 529.
Fluorine, estimation of, in fluorides easily decomposable by sulphuric acid (BURK), A., ii, 170.
estimation of, in musts and wines (WINDISCH), A., ii, 104.
Fluorovanadium compounds (MELIKOFF and KASANEZKY), A., ii, 27.
Fodders, estimation of fat in (BEGER), A., ii, 367.
Folding point curves in ternary systems (SCHREINEMAKERS), A., ii, 61.
Food, energy value of, in man (RUBNER), A., ii, 453.
calorific and nutritive value of (FRENTZEL and TORIYAMA), A., ii, 216.

Food, digestibility of, in the stomach (FERMI), A., ii, 216.
detection of traces of arsenic in (BERNTROP), A., ii, 225.
detection and estimation of small quantities of arsenic in (REPORT OF JOINT COMMITTEE), A., ii, 288.
detection of benzoic acid and alkali benzoates in (DE BREVANS), A., ii, 112.
detection of formaldehyde in (ARNOLD and MENTZEL), A., ii, 367, 480.
detection of salicylic acid in (TAFFE), A., ii, 292.
Foresite from the Elba granite (MANASSE), A., ii, 90.
Formaldehyde (RAIKOW), A., i, 344.
interaction of, with acetonylacetone (KNORR and RABE), A., i, 13.
action of, on acetylphenylhydrazine, the esters of the aminobenzoic acids, benzoylthymol, ethylaniline, phenylhydrazine, and on resacetophenone (GOLDSCHMIDT), A., i, 716.
condensation of, with *di*aminoanthraquinones (BADISCHE ANILIN- & SODA- FABRIK), A., i, 119.
action of, on anthranilic acid (GOLDSCHMIDT), A., i, 371; (HELLER and FIESSELMANN), A., i, 779.
action of, on methyl anthranilate (MEHNER), A., i, 676.
action of, on creatine and creatinine (JAFFÉ), A., i, 748.
action of, on *tert.*-*m*-diamines (MORGAN), T., 657; P., **1902**, 87.
action of hydrogen chloride on aqueous (COOPS), A., i, 77.
condensation of, with 4-methyl-3-ethylpyridine (KOENIGS), A., i, 394.
action of, on *p*-nitroaniline (MEYER and STILLICH), A., i, 319.
action of, on *p*-nitrophenol (BORSCHE), A., i, 836.
condensation of, with 2-picoline and 2-ethylpyridine (KOENIGS and HAPPE), A., i, 394.
condensation of, with pyridine and quinoline derivatives (KOENIGS), A., i, 179, 180.
compounds of, with citric and with tartaric acids (STERNBERG), A., i, 259.
use of, for discriminating between basic and acidic functions in solutions of amino-acids (SCHIFF), A., i, 85.
use of, for discriminating between basic and acidic functions in proteid solutions (SCHIFF), A., i, 250.
use of, for the detection of nicotine (SCHINDELMEISER), A., ii, 115.
Formaldehyde, physiological action of (KOCH), A., ii, 165.
detection and estimation of methyl alcohol in commercial (DUYK), A., ii, 110.
detection of, in foods (ARNOLD and MENTZEL), A., ii, 367, 480.
detection of, in milk (RIEGLER), A., ii, 585.
estimation of (VANINO and SEITTER), A., ii, 55; (PFAFF), A., ii, 705.
estimation of, gravimetrically (VANINO), A., ii, 115.
Formaldehyde, *tri*thio-, preparation of (VANINO), A., i, 744.
Metaformaldehyde. See Trioxymethylene.
Formamide, substituted, in the air (HENRIET), A., i, 714.
Formamidines, preparation and reactions of derivatives of (DAINS), A., i, 602.
Formic acid, new synthesis of (MOISSAN), A., i, 255.
Orthoformic acid ethyl ester, compounds of, with phenetidine and with *m*- and *p*-aminobenzoic acids and their esters (GOLDSCHMIDT), A., i, 785.
Formula, $d=\frac{0{\cdot}02\,T^2}{L}$, new proof of (LENGFELD), A., ii, 5.
Formylacetylphenylbenzylidenetriazan (WOHL and SCHIFF), A., i, 578.
Formylphenylacetic acid, menthyl ester (COHEN and BRIGGS), P., **1902**, 172.
and its metallic, acetyl, benzoyl, and phenylcarbamate derivatives (LAPWORTH and HANN), T., 1494; P., **1902**, 144.
N-**Formyl**-*β*-**phenylhydroxylamine** (BAMBERGER), A., i, 279; (BAMBERGER and DESTRAZ), A., i, 539.
Forsterite from Kandy, Ceylon (ARSANDAUX), A., ii, 329.
Fowls fed on meat, urine and kidneys of (HOUSSAY), A., ii, 218.
digestion of maize by (PARASCHTSCHUK), A., ii, 525.
Fractional distillation. See Distillation.
Fractionation apparatus (MICHAEL, GRAVES, and GARNER), **A.**, i, 70
Fragaria vesca. See Strawberries under Agricultural Chemistry.
Frangula bark, glucoside of (AWENG), A., i, 725.
Freezing point of concentrated solutions of electrolytes, lowering of the (JONES and GETMAN), A., ii, 489.
of aqueous hydrogen peroxide, lowering of the (JONES, BARNES, and HYDE), A., ii, 203.

Freezing point of a solution at constant temperature, determination of (PRYTZ), A., ii, 382.
Freezing point curves of phthalic anhydride and water and of succinic anhydride and water (VAN DE STADT), A., ii, 598.
Freezing point depression constant for electrolytes, determination of the (HEBB), A., ii, 443.
Freezing point. See also Cryoscopy.
d-**Fructose.** See Lævulose.
Fruits, polarisation of (TOLMAN), A., ii, 537.
grown in southern climes, occurrence of boric acid in (v. LIPPMANN), A., ii, 523.
South European, sugars and organic acids in some (BORNTRAEGER), A., ii, 347.
dried, estimation of sulphurous acid in (BEYTHIEN and BOHRISCH), A., ii, 472.
preserved, containing starch sugar, estimation of sucrose in (SCHREFELD), A., ii, 536.
Fuel, determination of the calorific power of (ANTONY and DI NOLA), A., ii, 4.
detection and estimation of small quantities of arsenic in (REPORT OF JOINT COMMITTEE), A., ii, 288.
See also Coal.
Fumaric acid (*ethylenedicarboxylic acid*), chloro-, ethyl ester, action of alkylmalonic esters on (RUHEMANN), T., 1212; P., **1902**, 181.
action of, on guaiacol, and on α- and β-naphthol (RUHEMANN), T., 421; P., **1902**, 45.
Fungi, nitrogenous constituents of certain (WINTERSTEIN and HOFMANN), A., ii, 622.
composition of the proteids and cell-membranes in (IWANOFF), A., ii, 279.
blue coloration of certain (BERTRAND), A., i, 220; ii, 166.
assimilation of, as compared with that of green plants (BOKORNY), A., ii, 345.
edible, composition of (ZEGA), A., ii, 349.
Furfuraldehyde, estimation of, in pepper (HILGER), A., ii, 185.
Furfuran, nitration of (MARQUIS), A., i, 483.
*αα-di*nitro- (HILL and WHITE), A., i, 388.
Furfurandicarboxylic acid and its salts and esters (YODER and TOLLENS), A., i, 49; (TOLLENS), A., i, 230.
Furfuran group, studies in the (FEIST), A., i, 488; (KEHRER), A., i, 562.
Furfuransulphonic acid, nitro-, and its potassium salt (HILL and WHITE), A., i, 388.
Furfuryl alcohol, carbamate, and **diphenylcarbamate** (ERDMANN), A., i, 553.
Furfurylcarbamic acid, esters (CURTIUS and LEIMBACH), A., i, 302.
β-**Furfurylglutaric acid** (KNOEVENAGEL), A., i, 226.
Furfurylidene-methylamine and **-ethylamine** (SCHWABBAUER), A., i, 230.
Furfurylidenenitromethane (BOUVEAULT and WAHL), A., i, 683.
Furfuryl-methylamine and **-ethylamine** and their salts (SCHWABBAUER), A., i, 230.
α-**Furfuryl-β-octinyl alcohol** and **-carbinol** (MOUREU and DESMOTS), A., i, 289.
Furfurylphenylacetylenecarbinol (MOUREU and DESMOTS), A., i, 289.
Furnace, new, heated by the oxyhydrogen blowpipe (MOISSAN), A., ii, 122.
Fusel oil from grain, *n*-butyl alcohol in (EMMERLING), A., i, 253.
estimation of, in alcoholic liquids (BECKMANN), A., ii, 178.
separation of amyl alcohols from (MARCKWALD), A., i, 418.
Fusibility of minerals (DOELTER), A., ii, 28.
Fusion and crystallisation (DUHEM), A., ii, 61.

G.

Gahnite from Färila, Sweden (HEDSTRÖM), A., ii, 405.
δ-**Galactan,** gelatinisation of (LEVITES), A., ii, 312.
Galactonic acid, chloro-, and its amide and piperidide (RUFF and FRANZ), A., i, 259.
Galactonolactone (RUFF and FRANZ), A., i, 259.
Galactose, magnetic rotation of (PERKIN), T., 189; P., **1901**, 256.
separation of, from dextrose by *Saccharomyces Ludwigii* (THOMAS), A., ii, 344.
Galactose-β-naphthylhydrazones, isomeric (ALBERDA VAN EKENSTEIN and DE BRUYN), A., i, 747.
Galactosido-dextrose and **-galactose** (FISCHER and ARMSTRONG), A., i, 746.
Galanga oil, constituents of (SCHINDELMEISER), A., i, 551.
Gallacetophenone methyl ethers (PERKIN and WILSON), P., **1902**, 215.

Gallic acid and its acetyl derivatives and their nitro-compounds, and its amino-derivatives, ethyl esters (POWER and SHEDDEN), T., 73; P., **1901**, 242.
bismuth derivative (THIBAULT), A., i, 101, 290.
Gallic acid, ethyl ester, destructive distillation of (PERKIN), P., **1902**, 254.
methyl ester, anhydrous (MAZZARA), A., i, 160.
Gallic acid, and its halogen derivatives and their esters, affinities of, in relation to their constitution (COPPADORO), A., i, 784.
*di*bromo- and 2:6-chlorobromo-, methyl and ethyl esters (GUARNIERI), A., i, 161.
Gambier Catechu, constituents of (PERKIN and YOSHITAKE), T., 1160; P., **1902**, 139.
Garnet from Colombia (REISS and STÜBEL), A., ii, 91.
from German East Africa (BORNHARDT and KÜHN), A., ii, 667.
from the Ilmen Mountains (SUSCHTSCHINSKY), A., ii, 30.
Gas, inflammable, in the Netherlands (LORIÉ), A., ii, 146.
new, from radium (RUTHERFORD and BROOKS), A., ii, 438.
changes in the composition of, injected into the subcutaneous tissues (PLUMIER), A., ii, 150.
water, apparatus for demonstrating the manufacture of (WATERS), A., ii, 255.
Gas analysis by combustion (HEMPEL), A., ii, 627.
Hempel's apparatus, modification of (RICHARDS), A., ii, 286.
Gas-purifying material, spent, estimation of Prussian blue in (BERNHEIMER and SCHIFF), A., ii, 361.
Gas washing apparatus (STROMEYER), A., ii, 251; (TISTSCHENKO), A., ii, 312.
Gases, purification of (DE VISSER), A., ii, 65.
electrical conductivity of (DE HEMPTINNE), A., ii, 119.
conditions determinative of chemical change and of electrical conduction in (ARMSTRONG), A., ii, 546.
specific heat of (CROMPTON), P., **1902**, 188.
solubility of, in organic solvents and in their solutions (LEVI), A., ii, 247.
ionised (LANGEVIN), A., ii, 301.
spontaneous ionisation of (WILSON), A., ii, 240.
liquefied, in sealed tubes, new method of manipulating (MOISSAN), A., ii, 66.
Gases, luminescence of, influence of radioactive substances on the (DE HEMPTINNE), A., ii, 58.
in blood at different altitudes during a balloon ascent (TISSOT and HALLION), A., ii, 150.
composition of hydrates of (DE FORCRAND), A., ii, 446.
natural, inapplicability of Winkler's method of fractional combustion of hydrogen to the examination of (CHARITSCHKOFF), A., ii, 529.
Gaseous mixtures, liquefaction of (CAUBET), A., ii, 382; (KUENEN), A., ii, 491.
Gasholder, Pepys', modification of (HABERMANN and OESTERREICHER), A., ii, 201.
Gastric juice, detection and estimation of lactic acid in (VOURNASOS), A., ii, 364.
estimation of pepsin in (MEUNIER), A., ii, 236.
See also Digestion.
Geese, ammonia and lactic acid in the blood of (KOWALEWSKI and SALASKIN), A., ii, 619.
effect of acids and alkalis on the urine of (KOWALEWSKI and SALASKIN), A., ii, 619.
Gelatin, behaviour of (PAULI and RONA), A., ii, 388.
from silk, hydrolysis of (FISCHER and SKITA), A., i, 654.
hydrolysis of (FISCHER, LEVENE, and ADERS), A., i, 512; (FISCHER), A., i, 699.
action of trypsin on (REICH-HERZBERGE), A., i, 252.
nutritive value of (KRUMMACHER), A., ii, 157.
the aromatic group in (SPIRO), A., i, 192.
formation of acetone and isovaleraldehyde from (NEUBERG and BLUMENTHAL), A., ii, 516.
and glues, evolution of (MÜLLER), A., ii, 587.
detection of, in jams (DESMOULIÈRE), A., ii, 588.
Gelatinisation of δ-galactan, gluten, and starch (LEVITES), A., ii, 312.
Gelose, detection of, in jams (DESMOULIÈRE), A., ii, 588.
Gentiobiose, crystallised, preparation and properties of (BOURQUELOT and HÉRISSEY), A., i, 713.
action of enzymes and top yeast on (BOURQUELOT and HÉRISSEY), A., i, 744.
Geocronite (*kilbrickenite*) (PRIOR), A., ii, 404.
from Val di Castello, Tuscany (D'ACHIARDI), A., ii, 211.

Geraniol from the oil of *Asarum canadense* (POWER and LEES), T., 66; P., **1901**, 210.
*α-cyclo***Geraniolene** and its nitrosate, nitrosochloride, nitrolebenzylamine, and nitrolepiperidide (WALLACH and SCHEUNERT), A., i, 724, 805.
Germanium hydride (VOEGELEN), A., ii, 401.
Germination. See Agricultural Chemistry.
Gibbsite from India (WARTH), A., ii, 328.
Gingko biloba nuts, composition of (SUZUKI), A., ii, 685.
Gitonic acid (KILIANI and MERK), A., i, 47.
Glands, Brunner's, function of (GLAESSNER), A., ii, 35.
lymph, enzyme in, which favours tryptic activity (DELEZENNE), A., ii, 616.
amount of iron in (GUILLEMONAT and DELAMARE), A., ii, 217.
mammary, formation of iodised fat in the (JANTZEN), A., ii, 273.
suprarenal. See Suprarenal.
thymus, proteolytic enzyme from the (KUTSCHER), A., ii, 153.
thyroid, sheep's, amount of iodine in (WOHLMUTH), A., ii, 274.
Glass, plastic and adhesive properties of (PICCARD), A., ii, 5.
Glauber salt. See Mirabilite.
Glaucophane from Chateyroux (Gressoney Valley) (ZAMBONINI), A., ii, 332.
Globulin as alkali-proteid (WOLFF and SMITS), A., i, 67.
Glomellic acid, **Glomelliferin**, and **Glomellin** (ZOPF), A., i, 465.
α-Glucoheptose, behaviour of, in the animal body (WOHLGEMUTH), A., ii, 616.
diphenylhydrazone and phenylmethylhydrazone (WOHLGEMUTH), A., i, 712.
Gluco-*o*-hydroxyphenylethylcarbinol (FISCHER and SLIMMER), A., i, 621.
Glucophosphoric acid (LEVENE), A., i, 347.
Gluco-proteids of lower animals (v. FÜRTH), A., ii, 35.
Glucosamine (*chitosamine*), from the hydrolysis of serum-albumin (LANGSTEIN), A., i, 331.
birotation of (SUNDVIK), A., i, 137.
derivatives (ROUX), A., i, 266.
hydrochloride and hydrobromide *p*-nitrophenylhydrazone (NEUBERG and WOLFF), A., i, 84.
detection of (NEUBERG and WOLFF), A., i, 84; (STEUDEL), A., i, 399.
d-**Glucose.** See Dextrose.
Glucoside, soluble hydroxyanthraquinone, in Barbados aloes (AWENG), A., i, 814.
of frangula bark (AWENG), A., i, 725.
Glucosides, synthesis of (FISCHER and ARMSTRONG), A., i, 263, 746.
formaldehyde derivatives of (DE BRUYN and ALBERDA VAN EKENSTEIN), A., i, 745.
detection and estimation of, in plants by means by emulsin (BOURQUELOT), A., ii, 55.
Glucosides. See also:—
Albaspidin.
Amygdalin.
Aucubin.
Crocin.
Dhurrin.
Digitogenin.
Digitonin.
Dihydroæsculetin.
Indican.
Myricitrin.
Myrticolorin.
Osyritrin.
β-Phenolgalactoside.
Phloridzin.
Phoenin.
Picrocrocin.
Robinin.
Salicin.
Salinigrin.
Saponarin.
Styrogenin.
Tetra-acetylhelicin.
Tetra-acetyl-*α*- and -*β*-methylglucoside.
Triacetylmethylglucoside.
Violaquercitrin.
Glucosidegalactose (FISCHER and ARMSTRONG), A., i, 746.
Glucosone, preparation and oxidation of (MORRELL and CROFTS), T., 666; P., **1902**, 55; (MORRELL), A., i, 531.
Glutaconic acid (*propylenedicarboxylic acid*), ethyl ester, and its sodium and formazyl derivatives (HENRICH), A., i, 422.
*di*cyano-, sodium derivative, ethyl ester (ERRERA and PERCIABOSCO), A., i, 116.
Glutamic acid, separation of, from leucine by gaseous hydrogen chloride (ETARD), A., ii, 182.
Glutaric acid (n-*pyrotartaric acid; propanedicarboxylic acid*), action of bromine on (PAOLINI), A., i, 658.
Glutaric acids, substituted, separation of the *cis*- and *trans*- forms of (THORPE and YOUNG), P., **1902**, 247.
Glutarimide, formation of (BOGERT and ECCLES), A., i, 271.

Gluten, gelatinisation of (LEVITES), A., i, 312.
Gluten proteid, utilisation of, by Ruminants (KELLNER), A., ii, 168.
Glutinpeptone (FAHRION), A., i, 846.
Glycerides of fatty acids with double melting point (KREIS), A., i, 529.
mixed, in animal fat (HANSEN), A., i, 339.
Glycero-arsenic acid (AUGER), A., i, 255.
Glycerol (*glycerin*), action of phosphorus trichloride on (A. and L. LUMIÈRE and PERRIN), A., i, 9; (CARRÉ), A., i, 338.
in the blood (DOYON and MOREL), A., ii, 672.
transformation of, into sugar, by testicular tissues (BERTRAND), A., ii, 159.
commercial, assay of (GAILHAT), A., ii, 361.
detection of arsenic in (BOUGAULT), A., ii, 530; (BARTHE), A., ii, 703.
estimation of (ZEISEL and FANTO), A., ii, 111, 585.
estimation of, by means of iodic acid (CHAUMEIL), A., ii, 536.
Glycerol, nitro-, estimation of, in an exhumed body (POND), A., ii, 361.
Glycerophosphorous acid and its salts (A. and L. LUMIÈRE and PERRIN), A., i, 9.
and its barium salt (CARRÉ), A., i, 131, 338.
Glyceryl tribenzoate, hydrolysis of (BALBIANO), A., i, 450.
Glycine (*glycocine; aminoacetic acid*), formation of, from glyoxylic acid (ERLENMEYER and KUNLIN), A., i, 594.
derivatives of (FISCHER), A., i, 350.
estimation of (FISCHER), A., ii, 541.
Glyco-albumose. See Albumose.
Glycocyamine and **Glycocyamidine** in urine in infectious diseases (NICOLA), A., ii, 679.
Glycogen, formation of, in Ascaris (WEINLAND and RITTER), A., ii, 677.
of the heart (JENSEN), A., ii, 617.
origin of, from proteid (BENDIX), A., i, 511; (CREMER; SCHÖNDORFF), A., ii, 154.
from yeast and its relation to oyster and rabbit glycogen (HARDEN and YOUNG), T., 1224; P., **1902**, 182.
formation of (SIMON), A., ii, 574.
effect of prolonged boiling of aqueous solutions of (NERKING), A., i, 206.
during inanition (PFLÜGER), A., ii, 618.
Glycogen, estimation of (PFLÜGER), A., ii, 586.
estimation of, in sausages and meat (MAYRHOFER), A., ii, 180.
Glycol. See Ethylene glycol.
Glycol, $C_{10}H_{14}O_3$, and its diacetate, from the oxidation of anethole by mercuric acetate (BALBIANO, PAOLINI, and NARDACCI), A., i, 808.
$C_{13}H_{18}O_2$, and its diacetate, from the aldol, $C_{13}H_{16}O_2$ (MICHEL and SPITZAUER), A., i, 292.
Glycols, preparation of, from diketones and organo-magnesium compounds (ZELINSKY), A., i, 593.
action of dilute acids on (LIEBEN), A., i, 336; (KONDAKOFF), A., i, 583.
Glycollanilide, thio-, and its copper derivative (BECKURTS and FRERICHS), A., i, 764.
Glycollic acid, phenylurethane of, and its salts and lactam (LAMBLING), A., i, 537.
Glycolysis in drawn blood (PAVY and SIAU), A., ii, 215.
Glycosuria. See Diabetes.
Glycuronic acid, combined, in normal fæces (BIAL; BIAL and HUBER), A., ii, 679.
in dog's blood (LÉPINE and BOULUD), A., ii, 619.
post-mortem occurrence of, in the liver (LÉPINE and BOULUD), A., ii, 218.
excretion of (MAYER), A., ii, 616.
excretion of, in phloridzin diabetes (LEWIN), A., ii, 272; (MAYER), A., ii, 520.
Glycylglycine, ethyl ester, and its acetyl derivative (FISCHER), A., i, 351.
Glycylglycinecarboxylic acid, and its salts, esters, and amide (FISCHER), A., i, 350.
Glycylglycyl-leucinecarboxylic acid, ethyl ester (FISCHER), A., i, 351.
Glyoxalines, formation of, from 1:8-derivatives of naphthalene (NÖLTING), A., i, 314.
N-**Glyoxime** *-m-* and *-p-***xylyl ethers** (BAMBERGER and DESTRAZ), A., i, 539.
Glyoxylic acid, transformation of, in glycine (ERLENMEYER and KUNLIN), A., i, 594.
Gold from Colombia (REISS and STÜBEL), A., ii, 91.
new association of (COLLINS), A., ii, 460.
colloidal (PAAL), A., ii, 508.
intensifying action of, on oxidising agents (SCHAER), A., ii, 140, 603.
melting point of (BERTHELOT), A., ii, 378.

Gold, application of the phase rule to the fusing point of (RICHARDS), A., ii, 455.
liquid hydrosol of (GUTBIER), A., ii, 610.
action of selenic acid on (LENHER), A., ii, 402.
red solution of, as reagent for colloids (ZSIGMONDY), A., ii, 188.
Gold haloids (LENGFELD), A., ii, 27.
chloride, action of salts on (OECHSNER DE CONINCK), A., ii, 664.
chlorides (MEYER), A., ii, 86.
telluride, naturally occurring (LENHER), A., ii, 402.
silver tellurides in Western Australia (HOLROYD; SIMPSON), A., ii, 509. See also Calaverite.
Gold, iodometric estimation of (RUPP and SPIESS), A., ii, 479.
estimation of, in alloys (RICHARDS), A., ii, 701.
Gold minerals, micrometric assay of (GUERREAU), A., ii, 630.
Gout, acute, metabolism in (VOGT), A., ii, 160.
Granite, Elba, composition of (MANASSE), A., ii, 90.
Granulose, estimation of (KAISER), A., ii, 362.
Grape sugar. See Dextrose.
Graphite, occurrence of monazite in (DERBY), A., ii, 331.
deposits of Battugol (JACZEWSKI), A., ii, 145.
Green manuring. See Agricultural Chemistry.
Greenockite on calcite from Joplin, Missouri (CORNWALL), A., ii, 567.
Guaiacol, action of ethyl chlorofumarate on the sodium derivative of (RUHEMANN), T., 421; P., **1902**, 45.
Guaiacoloxyfumaric acid and its ethyl ester (RUHEMANN), T., 421; P., **1902**, 45.
Guaiacolsulphonic acid (HÄHLE), A., i, 288.
Guaiacum blue (SCHAER), A., i, 168.
Guanidine, physiological action of (POMMERRENIG), A., ii, 274.
estimation of (VOZÁRIK), A., ii, 633.
Guanidines, aromatic, preparation of (ALWAY and VAIL), A., i, 838.
Guanine, physiological action of (SCHITTENHELM), A., ii, 617.
Guano, Australian bat, minerals occurring in (MACIVOR), A., ii, 460.
Gypsum, solubility of (HULETT and ALLEN), A., ii, 656.
solubility of, in aqueous solutions of certain electrolytes (CAMERON and SEIDELL), A., ii, 207.
Gypsum, solubility of, in aqueous solutions of sodium chloride (CAMERON), A., ii, 75.
transformation of, into anhydrite (VAN'T HOFF, DONNAN, ARMSTRONG, HINRICHSEN and WEIGERT), A., ii, 74; (VAN'T HOFF and WEIGERT), A., ii, 137.
See also Calcium sulphate.

H.

Hæmatein, constitution of (BOLLINA, V. KOSTANECKI, and TAMBOR), A., i, 482.
Hæmatommin and **Hæmatommidin** (HESSE), A., i, 681.
Hæmatoxylin (HERZIG and POLLAK), A., i, 482.
constitution of (PERKIN and YATES), T., 235; (PERKIN), T., 1008, 1057; (GILBODY and PERKIN), T., 1040; P., **1899**, 27, 75, 241; **1900**, 107; **1901**, 257; **1902**, 147.
Hæmatoxylinic acid and its salts (PERKIN and YATES), T., 243; P., **1900**, 108.
Hæmins (KÜSTER), A., i, 845.
Hæmoglobin, affinity of, for carbon monoxide and oxygen (HÜFNER), A., ii, 671.
during the period of suckling (ABDERHALDEN), A., ii, 334.
changes in, under low atmospheric pressure (VALLOT), A., ii, 92.
Hæmoglobins, chemical and physical properties of the (GAMGEE), A., i, 700.
Carboxyhæmoglobin, dissociation of (GRÉHANT), A., ii, 93.
dissociation of, during life (NICLOUX) A., ii, 215.
Cyanohæmoglobin, crystallised (v. ZEYNEK), A., i, 195.
Hæmolysin of *Bacillus megatherium* (TODD), A., ii, 464.
Hæmolysins, hereditary transmission of (BULLOCH), A., ii, 464.
Hæmolysis (MATTHES), A., ii, 334.
and bacteriolysis (BULLOCH), A., ii, 94.
inhibition of, by salts (MARKL), A., ii, 334.
Hæmopyrrole, oxidation of (KÜSTER), A., i, 845.
Hæmotricarboxylic acids (*pentane-αγδ-tricarboxylic acids*) (KÜSTER), A., ii, 845.
Hæmoverdin from the blood of animals and persons poisoned by phenylhydrazine (LEWIN), A., i, 67; ii, 160.
Halloysite from Edwards Co., Texas (MERRILL), A., ii, 462.

Halochromism (v. BAEYER and VILLIGER), A., i, 380.
Halochromy of 2:7-dimethoxynaphthalene (KAUFFMANN), A., i, 368.
Halogen compounds, organic, dissolved in alcoholic solution, decomposition of, by sodium amalgam (LÖWENHERZ), A., ii, 385.
group, velocity of substitution of a, by an alkyloxyl group in aromatic halogen nitro-compounds (LULOFFS), A., i, 87.
interchange of a, for hydroxyl in bromo- and chloro-naphthalenediazonium hydroxides (ORTON), P., **1902**, 252.
ions, positive and negative (STIEGLITZ), A., ii, 66.
salts (PFEIFFER), A., ii, 498.
influence of the concentration of the hydrogen ions on the action of iodates on (DITZ and MARGOSCHES), A., ii, 12.
double salts (WELLS), A., ii, 11.
Halphen's reaction (STEINMANN; RAIKOW), A., ii, 366.
Heart, glycogen of the (JENSEN), A., ii, 617.
Heart muscle, influence of salts on (HOWELL), A., ii, 94.
Heat. See Thermochemistry.
Heat *rigor*, effect of solutions of various electrolytes and non-conductors on (MOORE), A., ii, 340.
Heating by electricity, apparatus for (GUNTZ), A., ii, 302.
Hedgehog, nitrogenous katabolism in the (NOÉ), A., ii, 337.
Helium, viscosity of, and its alteration with temperature (SCHULTZE), A., ii, 5.
use of, in spectroscopy (TSCHERMAK), A., ii, 189.
Hemicelluloses, action of enzymes on (GRÜSS), A., i, 713.
Hemipinic acid (DOBBIE and LAUDER), T., 146; P., **1902**, 252.
and its esters, and their conductivity (WEGSCHEIDER), A., i, 617, 619.
m-**Hemipinic acid** (DOBBIE and LAUDER), T., 146; P., **1901**, 252; (PERKIN and YATES), T., 242; P., **1899**, 27, 241; **1900**, 107, 108; (PERKIN), T., 1025, 1062; (GILBODY and PERKIN), T., 1045.
Hemipinic anhydride, dihydroxydimethoxyfluorescein of (LIEBERMANN and WÖLBLING), A., i, 547.
Heneicosane (MABERY), A., i, 733.
Hepta-acetylbromolactose (DITMAR), A., i, 532.
Hepta-acetyl-bromomaltose, and **-phenylmaltoside** (FISCHER and ARMSTRONG), A., i, 746.
Hepta-acetyl-chlorocellobiose and **-methylcellobioside** (SKRAUP and KÖNIG), A., i, 135.
Hepta-acetylchlorolactose (BODART), A., i, 347; (DITMAR), A., i, 532.
Heptal-acetylchlorolactoses (two) (FISCHER and ARMSTRONG), A., i, 264.
Hepta-acetyl-chloromaltose, **-methylmaltoside** and **-ethylmaltoside** (FOERG), A., i, 347.
Hepta-acetyl-maltose nitrate and **-β-methylmaltoside** (KOENIGS and KNORR), A., i, 135.
Heptadecane and *di*chloro- (MABERY), A., i, 733.
Heptaldehyde (SCHIMMEL & Co.), A., i, 344.
condensation of, with ethyl cyanoacetate (GUARESCHI), A., i, 820.
*cyclo***Heptanecarboxylic acid**, synthesis of (ZELINSKY), A., i, 675.
Heptanedicarboxylic acid. See *s-aa*-Diethylglutaric acid.
Heptane-$\alpha\gamma\gamma\epsilon\epsilon\eta$-hexacarboxylic acid, ethyl ester (GUTHZEIT and ENGELMANN), A., i, 743.
*cyclo***Heptane-1-olacetic acid**, ethyl ester (ZELINSKY and GUTT), A., i, 586.
γ-*iso*Heptanol, nitro- (MOUSSET), A., i, 254.
Heptenoic acid (*δ-methyl-γ-hexenoic acid*), **γ**-bromo- (WALLACH and BLEMBEL), A., i, 81.
γδ-*iso*Heptenoic acid (*β-methyl-βε-hexenoic acid*), and its salts and esters (SOLONINA), A., i, 256.
n-**Heptoic acid**, **ζ**-amino- (MANASSE), A., i, 351.
Heptoic acid (*δ-methylhexoic acid*), **γγδ-*tri*bromo-** (WALLACH and BLEMBEL), A., i, 81.
Heptylamine soaps and water, formation of colloidal bubbles from (KRAFFT; KRAFFT and FUNCKE), A., ii, 601.
*iso***Heptylbenzene** (KLAGES), A., i, 668.
Heptylene glycol (MOUSSET), A., i, 254.
Herbivora. See Agricultural Chemistry.
Hexacarbaminochromic salts (WERNER and KALKMANN), A., i, 687.
Hexacosane (MABERY), A., i, 734.
Hexadecane and *di*chloro- (MABERY), A., i, 733.
Hexadecenyl-mesitylene and **-*m*-xylene** (KLAGES), A., i, 613.
Hexahydroaromatic acids, synthesis of (ZELINSKY), A., i, 675.
Hexahydrobenzoic acid. See *cyclo*-Hexanecarboxylic acid.

Hexahydrobenzylamines, preparation of (FARBWERKE VORM. MEISTER, LUCIUS & BRÜNING), A., i, 90.

Hexahydrolutidinedicarboxylic acid, ethyl ester and its nitroso-derivative and platinichloride (KNOEVENAGEL and FUCHS), A., i, 565.

Hexahydro-*o*-toluic acid. See 2-Methyl-*cyclo*hexanecarboxylic acid.

Hexahydro-*m*-tolylenediamine and its nitrate, and dibenzoyl and diphenylcarbamide derivatives (HARRIES), A., i, 361.

Hexahydroxyanthraquinone. See Rufigallic acid.

Hexahydroxydiphenyl (HARRIES), A., i, 771.

Hexahydro-*m*-xylylenediamine and its salts and diphenylcarbamide (HARRIES), A., i, 361.

***iso*Hexaldehyde** and its oxime (BOUVEAULT and WAHL), A., i, 592.

Hexamethylacridine and its additive salts and bromo- and nitro-derivatives (SENIER and GOODWIN), T., 285; P., **1902**, 12.

Hexamethylbenzene, critical constants of (GUYE and MALLET), A., ii, 303.

action of bromine on (v. KORCZYNSKI), A., i, 274.

See also Phenyl*cyclo*hexane.

Hexamethylethylacridinium iodide (SENIER and GOODWIN), T., 288; P., **1902**, 13.

Hexamethylindigotin, 4:5:7:4′:5′:7′- (KUHARA and CHIKASHIGÉ), A., i, 227.

Hexane (*ββ-dimethylbutane*), γ-bromo-γ-nitroso-, constitution of (PILOTY and STOCK), A., i, 735.

***iso*Hexane**, α-chloro-β-nitro- (MOUSSET), A., i, 254.

***iso*Hexane** (*β-methylpentane*), *βγ-di*amino-, and its salts and dicarbamide (KOHN), A., i, 349.

Hexanes, nitration of (ZALOZIECKI and FRASCH), A., i, 197.

***cyclo*Hexane**, 1:4-*di*bromo- and 1:4-*di*chloro-1:4-*di*nitro-, -1:4-*di*nitroso-, and -1:4-*bis*nitrosyl- (PILOTY and STEINBOCK), A., i, 735.

***cyclo*Hexanecarboxylic acid** (*hexahydrobenzoic acid*), synthesis of (ZELINSKY), ii, 675.

and its ethyl ester and *m*-amino-compound and its derivatives (BAUER and EINHORN), A., i, 224.

Hexanedicarboxylic acids. See:—

Dimethyladipic acid.

Methylpimelic acid.

*β-iso*Propylglutaric acid.

βε-Hexanediol and its diacetate (DUDEN and LEMME), A., i, 337.

Hexanetricarboxylic acid. See *αα*-Dimethylbutane-*αβδ*-tricarboxylic acid.

***cyclo*Hexanolones**, formation of (RABE and ELZE), A., i, 709.

Hexaphenylethane, and *hexa*nitro- (ULLMANN and BORSUM), A., i, 755.

β-Hexene, **βε-*di*bromo-** (DUDEN and LEMME), A., i, 337.

Hexenoic acid (*dimethylvinylacetic acid*) (PERKIN), T., 256.

***n*-Hexoic acid**, *d*- and *l*-amino- (FISCHER and HAGENBACH), A., i, 86.

αε-*di*amino-, synthesis of, and its salts and phenylcarbimide (FISCHER and WEIGERT), A., i, 352.

Hexoic acid, *di*bromo-. See Dimethyl-*di*bromoethylacetic acid.

Hexoylacetic acid, methyl ester (BONGERT), A., i, 73.

Hexoylacetoacetic acid, isomeric esters and copper derivative (BONGERT), A., i, 73.

Hexyl alcohol, synthesis of (GUERBET), A., i, 130.

***iso*Hexyl alcohol**, amino- and its dibenzoyl derivative, and **β**-bromo-**β**-nitro-, and **β**-nitro- (MOUSSET), A., i, 254.

β-*iso*Hexyl alcohol, α-amino-, and its dibenzoyl derivative (MOUSSET), A., i, 254.

***sec.*Hexylacetoacetic acid**, ethyl ester, and its hydrolysis (LEES), T., 1594; P., **1902**, 193.

***cyclo*Hexylbenzene.** See Phenyl*cyclo*hexane.

***p-cyclo*Hexylbenzenediazonium** sulphate (KURSANOFF), A., i, 20.

***cyclo*Hexylbenzenesulphonic acid** and its salts (KURSANOFF), A., i, 20.

Hexylbutyrylacetic acid, ethyl ester (LOCQUIN), A., i, 705.

***iso*Hexylene**, nitro- (BOUVEAULT and WAHL), A., i, 592.

Hexylene oxide (ZELINSKY), A., i, 70.

dioxide (DUDEN and LEMME), A., i, 338.

Hexylene glycols. See Dihydroxyhexane and **β**-Methylpentane-**βδ**-diol.

***p-cyclo*Hexylphenol** and its metallic derivatives (KURSANOFF), A., i, 21.

Hippocampus, blood of the (SABRAZÈS and MURATET), A., ii, 215.

Hippurazoimide, syntheses with (CURTIUS), A., i, 844.

Hippuric acid, synthesis of, in the organism (BASHFORD and CRAMER), A., ii, 574.

estimation of, by Blumenthal's method (SOETBEER), A., ii, 633.

Hippuronitrile (KLAGES), A., i, 355.
Hippurylbenzamide (TITHERLEY), T., 1532; P., **1902**, 187.
Histidine, amount of, in vegetable proteids (SCHULZE and WINTERSTEIN), A., i, 193.
Histon salts, electrolysis of (HUISKAMP), A., i, 332.
Hofmann's reaction (GRAEBE and ROSTOVZEFF), A., i, 663.
Homoallantoic acid (SIMON), A., i, 15.
Homo-camphanyl- and **-camphenyl-anilines** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 90.
Homocarvomenthene (WALLACH and THÖLKE), A., i, 799.
Homocatechol, nitro-, dimethyl ether (PERKIN), T., 1021; P., **1902**, 147; (GILBODY and PERKIN), T., 1052.
Homofurfuraldoxime (BOUVEAULT and WAHL), A., i, 683.
Homomenthene (WALLACH and THÖLKE), A., i, 799.
Homonicotinic acid. See 4-Methylpyridinecarboxylic acid.
Homoparacopaivic acid (TSCHIRCH and KETO), A., i, 167.
Homopilomalic acid. See Piluvic acid.
Homopiperonylaldehyde, oxime of (BOUVEAULT and WAHL), A., i, 683.
Homoveratrole, 6-nitro- (GILBODY and PERKIN), T., 1052; (BOLLINA, v. KOSTANECKI, and TAMBOR), A., i, 482; (v. KOSTANECKI and PAUL), A., i, 686.
Honey, testing of (HILGER), A., ii, 179; (BRÄUTIGAM), A., ii, 362.
analyses of (RACINE), A., ii, 704.
Honeys, polarisation of (TOLMAN), A., ii, 537.
Honey dextrin (BECKMANN), A., ii, 180.
Hops. See Agricultural Chemistry.
Horse chestnut trees. See Agricultural Chemistry.
Horse oils, analytical constants of (GILL and ROWE), A., ii, 481.
Horses. See Agricultural Chemistry.
Hübl's iodine solution (KITT), A., ii, 539.
Humic substances (SESTINI), A., i, 136.
Humus. See Agricultural Chemistry.
Hydantoins, labile ψ-thio-, formation of, from thiocyanoacetanilides and molecular rearrangement of, into stable isomerides (WHEELER and JOHNSON), A., i, 758.
Hydramides, and their reactions with ethyl cyanoacetate (BECCARI), A., i, 375.
Hydramines, action of aldehydes on (KNORR and MATTHES), A., i, 56.
Hydrates, formation of, in aqueous solutions (SCHMATOLLA), A., ii, 645.
Hydrazides, preparation of, from the hydrazine salts of acids (CURTIUS and FRANZEN), A., i, 832.
Hydrazine, boiling point curve of mixtures of water and (DE BRUYN and DITO), A., ii, 644.
density of mixtures of, and water (DITO), A., ii, 499.
catalysis of (TANATAR), A., ii, 386, 495.
borates (DJAVACHOFF), A., ii, 317.
hydrate, action of, on thiocarbamides (BUSCH and ULMER), A., i, 575.
salts, use of, in qualitative analysis (KNOEVENAGEL and EBLER), A., ii, 697.
Hydrazobenzene, certain properties of (FREUNDLER and BÉRANGER), A., i, 405.
and its substitution derivatives, action of, on aldehydes (RASSOW and RÜLKE), A., i, 404.
transformation of, into benzidine (CHATTAWAY), P., **1902**, 175; (RASSOW and RÜLKE), A., i, 404; (SACHS and WHITTAKER), A., i, 510.
Hydrazobenzene, *di-p*-nitro-, and its tautomeric modification (FREUNDLER and BÉRANGER), A., i, 650.
4:6-*di*nitro-2-cyano- (BLANKSMA), A., i, 281.
Hydrazoximes, oxidation of (PONZIO), A., i, 190.
Hydrides of the alkaline earths, formation and stability of (GAUTIER), A., ii, 453.
Hydrindamine bromocamphorsulphonates, resolution of (KIPPING), P., **1902**, 209, 211.
dl-**Hydrindamine** tartrates (KIPPING and HUNTER), T., 583; P., **1902**, 61.
Hydriodic acid. See under Iodine.
Hydro-α-anthrol and its acetate (PLEUS), A., i, 773.
Hydrobenzoin, 4:4′-*di*chloro- (MONTAGNE), A., i, 472.
Hydrobromic acid. See under Bromine.
Hydrocarbon, b.p. 169–171°, from isocamphor (SPICA), A., i, 43.
b. p. 170–180°, from the hydrolysis of thujonehydrateglycuronic acid (FROMM and HILDEBRANDT), A., ii, 160.
C_6H_{12}, from the reduction of pinacolin liquid chloride (DELACRE), A., i, 79.
C_7H_{12}, from the action of oxalic acid on 1:3-dimethylcyclopentanol-3 (ZELINSKY and GUTT), A., i, 70.
C_7H_{12}, from ammonium β-methylcyclopentanolacetate (WALLACH and SPERANSKI), A., i, 722.

Hydrocarbon, C_8H_{14}, from 1:3-dimethylcyclo-3-hexanol (ZELINSKY and ZELIKOFF), A., i, 3.
C_8H_{14}, from the iodide of $C_9H_{18}N$ (WALLACH and GILBERT), A., i, 80.
C_9H_{14}, from sabinene alcohol and sabinene ketone semicarbazone (SEMMLER), A., i, 550.
C_9H_{14}, from terpineol (WALLACH and RAHN), A., i, 804.
C_9H_{16}, from 1-methyl-3-ethylcyclo-3-hexanol (ZELINSKY and ZELIKOFF), A., i, 3.
C_9H_{16}, from the action of oxalic acid on ethyl 1-methylcyclohexane-3-olpropionate (ZELINSKY and GUTT), A., i, 585.
$C_{10}H_{14}$, from phellandrenol- and pinenol-glycuronic acids (FROMM and HILDEBRANDT), A., ii, 159.
$C_{10}H_{16}$, from 5-methyl-3-ethyl-$\Delta^{1:5}$-dihydrophenylacetic acid (WALLACH and BÖTTICHER), A., i, 799.
$C_{11}H_{18}$, from the acid $C_{12}H_{18}O_2$ (WALLACH and THÖLKE), A., i, 800.
$C_{11}H_{20}$, from 1:3-dimethyl-4-isopropylcyclo-3-hexanol (ZELINSKY and ZELIKOFF), A., i, 3.
$C_{15}H_{22}$, and its hydrochloride from calamus oil (THOMS and BECKSTROEM), A., i, 810.
$C_{15}H_{24}$, from galanga oil (SCHINDELMEISER), A., i, 551.
$C_{18}H_{22}$, obtained in the reduction of β-iodoisopropylbenzene (KLAGES), A., i, 667.
$C_{18}H_{34}$, from the action of bromine on dimethylpentadecylcarbinol (IPATIEFF and GRAVE), A., i, 5.
Hydrocarbons in Pennsylvania petroleum with boiling points above 216° (MABERY), A., i, 733.
synthesis of, by means of magnesium organic compounds (GRIGNARD), A., i, 142.
formed by the action of aluminium chloride on amylene (ASCHAN), A., i, 749.
respiration of, by plants (POLLACCI), A., ii, 99.
*di*nitro-, constitution of primary (SCHOLL), A., i, 753.
reduction of the primary, with aluminium amalgam (PONZIO), A., i, 334.
acetylenic, study of (MOUREU and DELANGE), A., i, 164, 253.
direct hydrogenation of, by contact action (SABATIER and SENDERENS), A., i, 701.
condensation of, with aldehydes (MOUREU and DESMOTS), A., i, 289.
Hydrocarbons, aromatic, recognition of (LIPPMANN and POLLAK), A., ii, 702.
oxidation of the methyl groups of (BADISCHE ANILIN- & SODA-FABRIK), A., i, 432.
*mono*bromo- and *mono*iodo-derivatives of (KALLE & Co.), A., i, 362.
nitroso-, molecular weight of (BAMBERGER and RISING), A., i, 88.
benzenoid, oxidation of, by manganese dioxide and sulphuric acid (FOURNIER), A., i, 15.
coal tar, separation of cyclic aromatic oxides or sulphides from (AKTIEN-GESELLSCHAFT FÜR THEER- & ERDÖL-INDUSTRIE), A., i, 714.
cyclic, active saturated (ZELINSKY), A., i, 665.
heat of combustion of (ZUBOFF), A., i, 144.
specific heats and heats of vaporisation of (MABERY and GOLDSTEIN), A., ii, 548.
mono- and di-cyclic, and their derivatives, synthesis of (PERKIN), A., i, 597.
polycyclic, synthesis of (DELACRE), A., i, 783.
ethylenic, hydrogenation of (SABATIER and SENDERENS), A., i, 525.
paraffin, specific heats and heats of vaporisation of (MABERY and GOLDSTEIN), A., ii, 548.
saturated, action of nitrosulphuric acid on (MARKOWNIKOFF), A., i, 417.
unsaturated, formation of, from alcohols (ZELINSKY and ZELIKOFF), A., i, 2.
See also Olefines, Paraffins, Sesquiterpenes, and Terpenes.
Hydrocarbons. See also :—
Acetylene.
β-Allylbenzene.
Allylmesitylene.
Amenylbenzene.
Amylbenzenes.
Amylene.
Anthracene.
Aromadendrene.
Benzene.
Benzyl-5-fluorene.
Butane.
*iso*Butane.
Butenylmesitylene.
p-Butenyl-*m*-xylene.
Butylbenzenes.
*iso*Butylene.
Cadinene.
Calamene.
Camphane.

Hydrocarbons. See:—
Camphene.
Carvene.
Cetylbenzene.
Cetylmesitylene.
β-ψ-Cumyl-β-butylene.
Cymene.
5:10-Dibenzylanthracene.
Dibenzylmesitylene.
Di*sec*butyl (*octane*).
Didehydrocampholene.
Di*cyclo*hexyl.
$\Delta^{1:5}$-Dihydromesitylene.
Dihydrophenanthrene.
$\Delta^{1:3}$-Dihydrotoluene.
Dihydro-*m*-xylene.
ββ-Dimethylbutane.
Dimethyldi*cyclo*hexyl.
1:1-Dimethyl-$\Delta^{2:4}$-dihydrobenzene.
1:3-Dimethyl-5-ethylbenzene.
1:5-Dimethyl-2-ethyl-Δ^{1}-tetrahydrobenzene.
1:1-Dimethylhexamethylene.
1:3-Dimethyl*cyclo*hexane.
Dimethyl-γδ-hexane (*octane*).
Dimethylindenes.
Dimethylnaphthalene.
3:4-Dimethyl*cyclo*octa-$\Delta^{1:5}$-diene.
1:3-Dimethyl*cyclo*pentane.
Dimethyl*iso*propylbenzene.
Dimyrcene.
Dipentene.
Diphenyl.
Diphenylethanes.
s-Diphenylethylene.
Diphenyl*cyclo*hexanes.
Diphenylmethane.
3:4-Diphenyl*cyclo*octa-$\Delta^{1:5}$-diene.
Diphenylpropanes.
Diphenylpropylenes.
Ditolyl.
Docosane.
*dicyclo*Dodecatriene.
Durene.
Ethane.
Ethylbenzene.
Ethylene.
Ethylfluorene.
p-Ethylstyrene.
Fenchene.
Fluorene.
*cyclo*Geraniolene.
Heneicosane.
Heptadecane.
*iso*Heptylbenzene.
Hexacosane.
Hexadecane.
Hexadecenylmesitylene.
Hexadecenyl-*m*-xylene.
Hexamethylbenzene.
*cyclo*Hexane.
Hexanes.

Hydrocarbons. See:—
Hexaphenylethane.
β-Hexene.
*cyclo*Hexylbenzene (*phenylcyclohexane*).
*iso*Hexylene.
Homocarvomenthene.
Homomenthene.
Indene.
Laurolene.
*iso*Laurolene.
Limonenes.
Menthenes.
Mesitylene.
Methane.
Methenylbisfluorene.
Methoethenylbenzene (*β-allylbenzene*).
p-Methylallylbenzene.
1-Methyl-3-*tert.*butylbenzene.
β-Methyl-β-butylene (*amylene*).
1-Methyl-3-ethyl*cyclo*hexene.
1-Methyl-3-ethyl*cyclo*pentane.
Methylfenchene.
Methylfluorene.
δ-Methyl-γ-heptylene (*octylene*).
1-Methyl*cyclo*hexane.
1-Methyl*cyclo*hexene.
Methylindenes.
γ-Methyl-2-methylene*cyclo*pentane.
Methyl*cyclo*pentane.
β-Methylpentane (iso*hexane*).
1-Methyl*cyclo*-Δ^{2}-pentene.
1-Methylpropyl-2-ethylethylene (*octylene*).
p-Methylstyrene.
Methyltrimethylene.
Myrcene.
Naphthalene.
Naphthenes.
Nonadecane.
Nonylenes.
Octacosane.
Octadecane.
*cyclo*Octa-$\Delta^{1:5}$-diene.
Octanes.
Octinene.
Octylene.
Pentacosane.
Pentadecane.
Pentamethylbenzene.
Pentane.
*iso*Pentane.
Pentinene.
Phellandrene.
Phenanthrene.
Phenylacetylene.
β-Phenyl-β-amylene.
Phenylbutadienes.
α-Phenyl-β-butylene.
β-Phenyl-β-butylene.
Phenyldihydropinene.
β-Phenyl-β-*iso*heptylene.

Hydrocarbons. See :—
Phenyl*cyclo*hexane.
α-Phenyl-γ-methyl-αγ-butadiene.
α-Phenyl-γ-methyl-αγ-pentadiene.
Pinenes.
Piperylene (*pentinene*).
Polymyrcene.
*cyclo*Propane.
*iso*Propylbenzene.
Propylene.
Pulenene.
Pyrodypnopinalcolene.
Salvene.
Stilbene.
Styrenes.
Terpane.
Terpenes.
Terpinene.
Tetracosane.
Tetradecane.
ar-Tetrahydro-β-naphthalene.
Tetrahydrotoluene.
Toluene.
Tricosane.
Tridecane.
Triethylbenzenes.
Trimethyl*dicyclo*dodecatriene.
Trimethylene (cyclo*propane*).
Trimethylethylene (*amylene*).
Triphenylmethane.
Triphenylmethyl.
Tropilidene.
βγ-Undecinene.
Undecylene.
Xylenes.
Zingiberene.

Hydrocarbostyril-4-acetic acid. See Dihydrocarbostyril-4-acetic acid.

*iso***Hydrochelidonic acid.** See Pilomalic acid.

Hydrochloric acid. See under Chlorine.

Hydrocinnamic acid. See β-Phenylpropionic acid.

Hydrocinnamyl-methyl- and **-ethyl-amines** and their salts (ANDREE), A., i, 210.

Hydrocotarninecarboxylamide methiodide (FREUND and BAMBERG), A., i, 556.

Hydrocotarninethiocarbonamide methohydroxide and methiodide (FREUND and BAMBERG), A., i, 557.

Hydrocoumarone and its halogen derivatives and sulphonic chloride and amide (BOES), A., i, 784.

Hydrocyanic acid. See under Cyanogen.

Hydrofluoric acid. See under Fluorine.

Hydrogen in the atmosphere (RAYLEIGH), A., ii, 391.
preparation of pure (MELLOR and RUSSELL), T., 1279; P., **1902**, 7.

Hydrogen, place of, in the periodic system (BRAUNER), A., ii, 66.
stratifications of (CROOKES), A., ii, 374.
discharge potential of, at a mercury cathode (COEHN and NEUMANN), A., ii, 118.
determinations of inversion temperature of Kelvin effect for (OLSZEWSKI), A., ii, 444.
carbon *mon*oxide and *iso*pentane, fractional combustion of (CHARITSCHKOFF), A., ii, 702.
compressibility of, at low pressures (BATTELLI), A., ii, 244.
diffusion of, through platinum (WINKELMANN), A., ii, 552.
behaviour of, with chlorine (MELLOR and RUSSELL), T., 1279; P., **1902**, 167.
union of, with chlorine (MELLOR and ANDERSON), T., 414; P., **1902**, 32; (MELLOR), T., 1280, 1292; P., **1902**, 169, 176.
under the influence of light (MELLOR and ANDERSON), T., 414; P., **1902**, 32; (BEVAN), A., ii, 237.
union of, with oxygen (BAKER), T., 400; P., **1902**, 40.
and oxygen, behaviour of, in presence of water (MARCACCI), A., ii, 392.
action of, on selenides and sulphides (PÉLABON), A., ii, 253.
relations of, to unsaturated elements and groups of elements (FEIST), A., i, 490; (VORLÄNDER), A., i, 562.
effect of the presence of, on the spectrum of carbon (HERBERT), A., ii, 637.
respiration of, by plants (POLLACCI), A., ii, 99.

Hydrogen antimonide. See Antimony hydride.
arsenide. See Arsenic *tri*hydride.
bromide. See under Bromine.
chloride. See under Chlorine.
cyanide. See under Cyanogen.
fluoride. See under Fluorine.
iodide. See under Iodine.
nitride. See Azoimide.

Hydrogen *per***oxide,** crystallised (STAEDEL), A., ii, 604.
pure solution of (JONES, BARNES, and HYDE), A., ii, 203.
aqueous, lowering of the freezing point of (JONES, BARNES, and HYDE), A., ii, 203.
intensifying action of, on oxidising agents (SCHAER), A., ii, 140, 603.
decomposition of (KASTLE and CLARKE), A., ii, 314.
decomposition of, by light (D'ARCY), A., ii, 297.

Hydrogen *per*oxide, catalytic decomposition of, by colloidal mercury and silver (McINTOSH), A., ii, 310.
behaviour of, with salts (MELIKOFF), A., ii, 314; (PETRENKO), A., ii, 316, 317; (KASANEZKY), A., ii, 317; (PISSARJEWSKY), A., ii, 326.
action of, on carbohydrates in presence of ferrous sulphate (MORRELL and CROFTS), T., 666; P., **1902**, 55.
action of, on carbonates (KASANEZKY), A., ii, 317, 500.
action of, on cerium, thorium, and zirconium hydroxides (PISSARJEWSKY), A., ii, 565.
action of chromic acid on (BACH), A., ii, 251.
mechanism of the action of, on permanganic acid (BACH), A., ii, 81.
action of, on potassium fluoroborate (PETRENKO), A., ii, 317.
action of, potassium fluoropermolybdate (KASANEZKY), A., ii, 506.
action of, on silver oxide (BERTHELOT), A., ii, 18, 207.
action of, on sodium arsenate (PETRENKO), A., ii, 499.
reactions of, with sulphites and thiosulphates (NABL), A., ii, 10.
action of, on zinc oxide (DE FORCRAND), A., ii, 322.
potassium percarbonate as a substitute for (TREADWELL), A., ii, 206.
alkali salts of, in aqueous solution (CALVERT), A., ii, 10.
molecular compounds of, with salts (TANATAR), A., ii, 11.
is it a function in cell-life? (CHODAT and BACH), A., ii, 344; (BACH and CHODAT; LOEW), A., ii, 522.
detection of (ALOY), A., ii, 610.
commercial, detection of oxalic acid in (NICOLLE), A., ii, 56.
detection and estimation of oxalic acid in (ROCHE), A., ii, 181.
estimation of, gravimetrically (HOSCH), A., ii, 222, 472.

Hydrogen *per*oxides, higher, existence of (BACH), A., ii, 203.

Hydrogen phosphide (*phosphine*), preparation of gaseous (BODROUX), A., ii, 499.

Hydrogen selenide, physical properties of (DE FORCRAND and FONZES-DIACON), A., ii, 253.
and hydrogen sulphide, comparison of the properties of (DE FORCRAND and FONZES-DIACON), A., ii, 254.
sulphide, and telluride, physical properties and physiological action of (DE FORCRAND and FONZES-DIACON), A., ii, 557.

Hydrogen selenide, vapour tension of, and the dissociation of its hydrate (DE FORCRAND and FONZES-DIACON), A., ii, 253.

Hydrogen silicide, liquid (MOISSAN and SMILES), A., ii, 318, 560.

Hydrogen sulphide, formation of, in alcoholic fermentation (SEIFERT), A., ii, 98; (POZZI-ESCOT), A., ii, 577.
physical properties and physiological action of (DE FORCRAND and FONZES-DIACON), A., ii, 557.
and hydrogen selenide, comparison of the properties of (DE FORCRAND and FONZES-DIACON), A., ii, 254.
dissociating power of (SKILLING), A., ii, 13.
behaviour of hydrochloric acid solutions of metastannic acid towards (JÖRGENSEN), A., ii, 26.
compounds of, with anhydrous aluminium chloride (BAUD), A., ii, 505.
generator for (SWAN), A., ii, 449.
apparatus (WÖHLK), A., ii, 204.
blue litmus-silk as a test for (EMICH), A., ii, 352.
detection and estimation of small quantities of, in coal-gas (DIBDIN and GRIMWOOD), A., ii, 582.
estimation of small amounts of, in natural waters (WINKLER), A., ii, 223.

Hydrogen telluride, physical properties and physiological action of (DE FORCRAND and FONZES-DIACON), A., ii, 498, 557.

Hydrogen ions, new method of determining the concentration of (JONES and RICHARDSON), T., 1140; P., **1902**, 140.
of dilute acids, antiseptic function of the (BIAL), A., ii, 447.

Hydrogen sulphide group, new separation in the (KNOEVENAGEL and EBLER), A., ii, 697.

Hydrogenases (POZZI-ESCOT), A., i, 580.
of the blood (POZZI-ESCOT), A., i, 654.
catalytic properties of the (POZZI-ESCOT), A., i, 513.

Hydrogöthite (SAMOILOFF), A., ii, 88.

Hydrolysis. See Affinity.

Hydroquinizarol triacetate (PLEUS), A., i, 773.

Hydroxamic acids, formation of, from nitroparaffins (BAMBERGER and RÜST), A., i, 197.

Hydroxamino-oximinomalonic acid. See Malondihydroxamic acid.

***p*-Hydroxyacetophenone** and its oxime and semicarbazone (CHARON and ZAMANOS), A., i, 104.

Hydroxy-acid, $C_{15}H_{20}O_4$, from the action of alkalis and alkaline earths on $C_{15}H_{18}O_8$ (BERTOLO), A., i, 815.

Hydroxy-acids, compounds of, with antimony pentachloride and tungsten chlorides (ROSENHEIM and LOEWENSTAMM), A., i, 358.

methylene compounds of (DE BRUYN and ALBERDA VAN EKENSTEIN), A., i, 76.

Hydroxyaldehydes, aromatic, synthesis of (DIMROTH and ZOEPPRITZ), A., i, 293.

m-**Hydroxy**-*o*-*iso***amylbenzoic acid** and its ethyl ester (BAUER and EINHORN), A., i, 225.

5-Hydroxy-2-anilinonaphthalene-7-sulphonic acid (BADISCHE ANILIN- & SODA-FABRIK), A., i, 92.

Hydroxyanthraquinones, preparation of, from the corresponding nitro-derivatives (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 383.

Hydroxyanthraquinones, amino- and bromo-derivatives of (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 382.

4-Hydroxyanthraquinone-2-sulphonic acid, 1-amino-, and its salts (WACKER), A., i, 298.

1-Hydroxyanthraquinone-2-sulphonic acid, 4-nitro-, introduction of amino-radicles into (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 476.

p-**Hydroxyazobenzene**, action of chloroacetic acid on (MAI and SCHWABACHER), A., i, 126.

Hydroxyazonaphthalene-5:5′-disulphonic acid and its ammonium salts (WACKER), A., i, 506.

o-**Hydroxyazoxybenzene** and its isomeride (BAMBERGER), A., i, 505.

p-**Hydroxyazoxybenzene**, synthesis of (BAMBERGER), A., i, 506.

m-**Hydroxybenzaldehyde**, *tetra*chloro-, and its acetyl derivative (BILTZ and KAMMANN), A., i, 162.

p-**Hydroxybenzaldehydeaniline** and its salts (DIMROTH and ZOEPPRITZ), A., i, 293.

3-Hydroxybenzaldehydephenylhydrazone, *tetra*chloro-, and its acetyl derivative (BILTZ and KAMMANN), A., i, 162.

and its 2:4:6-*tri*bromo-, and 2:4:6-*tri*- and *tetra*-chloro-derivatives, atmospheric oxidation of (BILTZ and KAMMANN), A., i, 467.

p-**Hydroxybenzaldehydephenylhydrazone** and its haloids and 3-nitro-derivative, oxidation of (BILTZ and AMME), A., i, 468.

m-**Hydroxy-benzaldoxime**, **-benzamide**, and **-benzonitrile**, *tetra*chloro-, and the acetyl derivative of the nitrile (BILTZ and KAMMANN), A., i, 162.

4-Hydroxy-5-benzeneazo-2:6-diphenylpyrimidine (BÜLOW and HAILER), A., i, 326.

2-Hydroxy-1-benzeneazo-3-naphthoic acid (STROHBACH), A., i, 162.

" 3-Hydroxybenzeneazoxindone " and its acetate, and compound with 3-aminobenzeneazoxindone (DIEPOLDER), A., i, 830.

o-**Hydroxybenzoic acid.** See Salicylic acid.

3-Hydroxybenzoic acid, 4:6-*di*bromo- and 2-bromo-4:6-*di*nitro- (ROBERTSON), T., 1484; P., **1902**, 190.

2:6-*di*chloro- and 2:6- and 6:2-chlorobromo- and their ethyl esters (MARTINI), A., i, 150.

4-Hydroxybenzoic acid, 3-*mono*- and 3:5-*di*-bromo-, acetyl derivatives, and ethyl ester of the *di*bromo-compound (ROBERTSON), T., 1482; P., **1902**, 190.

Hydroxybenzoic acids, halogenated, relation of their affinities to their constitution (COPPADORO), A., i, 783.

amino-, methyl esters, compounds of, with 1-phenyl-2:3-dimethyl-5-pyrazolone (EINHORN), A., i, 497.

Hydroxybenzophenone, derivatives of (ULLMANN and GOLDBERG), A., i, 792.

p-**Hydroxybenzyl alcohol**, *tri*- and *tetra*-bromo-, and methyl ethers, and their acetyl derivatives (ZINCKE and WIEDERHOLD), A., i, 284.

*tetra*chloro- and its acetyl derivatives, methyl ether, and nitro-ketones (ZINCKE and WIEDERHOLD), A., i, 283.

p-**Hydroxybenzyl bromide**, *tri*- and *tetra*-bromo- (ZINCKE and WIEDERHOLD), A., i, 284.

*tetra*chloro- (ZINCKE and WIEDERHOLD), A., i, 282.

Hydroxybenzyl thiocyanates, bromo-derivatives, and their acetyl compounds (STEPHANI), A., i, 148.

7-Hydroxy-2-benzylchromone, and its acetate (HANNACH and V. KOSTANECKI), A., i, 304.

m-**Hydroxybenzylidene** chloride and its acetyl derivative, *tetra*chloro- (BILTZ and KAMMANN), A., i, 163.

o-**Hydroxybenzylideneacetoacetic acid** (WIDMAN), A., i, 374.

α-**Hydroxybenzylideneacetophenone** and its methyl and ethyl ethers (POND YORK, and MOORE), A., i, 105.

Hydroxybenzylidene-2-bromoindanones, and their acetyl derivatives (MINIAT), A., i, 296.

o-**Hydroxybenzylidene-hydrazine** and **-phenylsemithiocarbazide** (CURTIUS and FRANZEN), A., i, 831.

1-α-Hydroxybenzyl-4-methyl*cyclo*hexanol-2, and its diacetate (TÉTRY), A., i, 470.

4-α-Hydroxybutyl-1:3-dimethylbenzene, and its chloride (KLAGES), A., i, 612.

2-α-Hydroxybutyl-1:3:5-trimethylbenzene and its acetate and phenylurethane (KLAGES), A., i, 613.

β-Hydroxybutyracetal (WOHL and FRANK), A., i, 532.

α-Hydroxybutyric acid, and its ethyl ester, phenylurethanes of, and the lactam of the acid (LAMBLING), A., i, 603.

β-Hydroxybutyric acid, resolution of, into its optically active components (MCKENZIE), T., 1402; P., **1901**, 213; **1902**, 185.

β-Hydroxybutyrolactone (FICHTER and SONNEBORN), A., i, 256.

1-Hydroxycamphene and its conversion into the **β**-halogen derivatives of camphor, and its methyl and ethyl ethers (FORSTER), T., 264; P., **1902**, 25.

β-Hydroxycamphoronic acid. See **β**-Camphoranic acid.

iso-**Hydroxycarbamide** and its hydrochloride and diacetyl derivative (FRANCESCONI and PARROZZANI), A., i, 139.

4-Hydroxy*iso*carbostyril and its phthaloylic acid, phthalide, and benzylidene derivative (GABRIEL and COLMAN), A., i, 642.

Hydroxycarboxylic acids, aromatic, formation of, in indifferent solvents, by Kolbe's reaction, and its relation to the cryoscopic behaviour of phenols in benzene and in other hydroxyl-free solvents (ODDO and MAMELI), A., i, 33.

6-Hydroxychromone and its acetate (DAVID and V. KOSTANECKI), A., i, 690.

Hydroxycinchotine and its salts (SCHMID), A., i, 53; (WIDMAR), A., i, 173.

p-**Hydroxycinnamic acid,** action of bromine on, and its methyl ester (ZINCKE and LEISSE), A., i, 615.

Hydroxycomenic acid (TICKLE and (COLLIE), T., 1006; P., **1902**, 170.

o-**Hydroxy-ψ-cumyl** alcohol, *di*bromo-, methyl ether and acetate (ANSELMINO), A., i, 286.

o-**Hydroxy-ψ-cumyl** bromide and iodide, *di*bromo- (ANSELMINO), A., i, 286.

p-**Hydroxy-ψ-cumyl** alcohol, *di*bromo-, formate and amyl ether of (STEPHANI), A., i, 148.

Hydroxy-ψ-cumyl. See also ψ-Cumenol.

Hydroxy-ψ-cumyl bromide, *di*bromo- (AUWERS and ANSELMINO), A., i, 214. chloride and iodide, *di*bromo-, and their acetyl derivatives (ANSELMINO), A., i, 216.

p-**Hydroxycumylacetic acid,** *di*bromo- (STEPHANI), A., i, 148.

Hydroxy-ψ-cumylanilines, *o*-, *m*-, and *p*-, and the *di*bromo-derivative and its acetyl compounds of the *m*-compound, and the acetyl derivatives of the *o*-compound (AUWERS and ANSELMINO), A., i, 214.

Hydroxy-ψ-cumylene *di*bromide, *di*bromo- (AUWERS and ANSELMINO), A., i, 215.

m-glycol, *di*bromo-, bromide of (ANSELMINO), A., i, 216.

*tri*bromo-, dimethyl ether. See 2:4-Dimethoxydimethyl-5-bromomethyl-1-phenol, 3:6-*di*bromo-.

p-**Hydroxy-ψ-cumylmalonic acid,** *di*bromo-, and its ethyl ester (STEPHANI), A., i, 148.

Hydroxy-ψ-cumylpyridine hydrobromide, *di*bromo- (ANSELMINO), A., i, 215.

Hydroxydehydro*iso*photosantonic acid and its barium salt and acetyl derivative (FRANCESCONI and VENDETTI), A., i, 546.

Hydroxydibenzylanthracene, and its ethyl ether (LIPPMANN and POLLAK), A., i, 754.

β-Hydroxy-αα-diethylglutaric acid and its *s*-ethyl ester and barium salt (REFORMATSKY), A., i, 588.

4-Hydroxydiethyl-*o*-toluidine and its hydrochloride and benzoate (MÖHLAU, KLIMMER, and KAHL), A., i, 839.

Hydroxydihydro*cyclo*amine bases, history and theory of (DECKER), A., i, 691.

α-Hydroxydihydro*iso*eugenol, ***β-mono-*** and ***β-m-di-*bromo-,** and their ethers and acyl derivatives (AUWERS and MÜLLER), A., i, 212.

4-Hydroxydihydrofencholenic acid and its amide, lactone, and nitrile (MAHLA), A., i, 107.

Hydroxydihydrotetramethylhæmatoxylone, nitro-, and its reactions (PERKIN), T., 1063.

Hydroxydihydrotrimethylbrazilone, nitro-, and its acetate (PERKIN), T., 1020; P., **1902**, 147; (GILBODY and PERKIN), T., 1048; (BOLLINA, V. KOSTANECKI, and TAMBOR), A., i, 482.

α-Hydroxy-αα-dimethylacetonylacetone and its dioxime and disemicarbazone (HARRIES), A., i, 345.

Hydroxydimethylaminoacetyldimethylamide (WILLSTÄTTER), A., i, 350.

7-Hydroxy-2-*p*-dimethylanilinonaphthalene (GNEHM, BOTS, and WEBER), A., i, 831.

α_1-Hydroxy-αα-dimethylglutaric acid, lactone of, and its silver salt (PERKIN), T., 259.

β-Hydroxy-αα-dimethylglutaric acid, synthesis of (PERKIN and SMITH), P., **1902**, 214.

5-Hydroxydimethyl-α-naphthylamine and 6-nitroso- (FUSSGANGER), A., i, 279.

γ-Hydroxy-ββ-dimethylpropionaldazine (KÖNIG), A., i, 701.

4-Hydroxy-3:5-dimethylpyrazole (SACHS and RÖHMER), A., i, 837.

6-Hydroxy-2:4-dimethylpyridine. See ψ-Lutidostyril.

6-Hydroxy-2:5-dimethylpyridine and its 6-bromo-derivative and **-3-carboxylic acid** and its ethyl ester (ERRERA), A., i, 117.

Hydroxydimethylpyrone and its acetate (TICKLE and COLLIE), T., 1005; P., **1902**, 170.

4-Hydroxydimethyl-*o*-toluidine and its hydrochloride, acetate, benzoate, and 5-nitroso- and its salts (MÖHLAU, KLIMMER, and KAHL), A., i, 838.

Hydroxydiphenylamine, *di*nitro-*m*-thiocyano-derivatives (BADISCHE ANILIN- & SODA-FABRIK), A., i, 93.

Hydroxydiphenylaminesulphonic acids, *di*nitro-*m*-thiocyano- (BADISCHE ANILIN- & SODA-FABRIK), A., i, 93.

3-Hydroxy-1:3-diphenyl-1:2:4-triazole (WHEELER and BEARDSLEY), A., i, 502.

1-Hydroxyerythroanthraquinone, 2:4-*di*bromo- (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 477.

2-Hydroxy-5-ethoxybenzoylpyruvic acid, ethyl ester (DAVID and V. KOSTANECKI), A., i, 690.

α-Hydroxy-4-(or 5-)ethoxydibenzyl-2-carboxylic acid (ONNERTZ), A., i, 99.

***m*-Hydroxy-*o*-ethylbenzoic acid,** and its esters and acetyl and benzoyl derivatives (BAUER and EINHORN), A., i, 225.

Hydroxyethyldimethylacetic acid, lactone of. See αα-Dimethylbutyrolactone.

4-α-Hydroxyethyl-1-mono- and -1:3-dimethylbenzenes, and their phenylurethanes and chlorides (KLAGES), A., i, 611.

4-α-Hydroxyethyl-1-ethylbenzene and its phenylurethane and chloride (KLAGES), A., i, 612.

Hydroxyethylnitrocarbamide (FRANCHIMONT and LUBLIN), A., i, 427.

α-Hydroxy-*p*-ethylphenol, bromo-derivatives of, and their acetyl compounds (ZINCKE, SIEBERT, and REINBACH), A., i, 607.

bromo-derivatives of, and their diacetates and α-methyl and -ethyl ethers (ZINCKE and LEISSE), A., i, 615.

Hydroxyethyl-*p*-tolylpyridine. See *p*-Tolyl-2-picolylalkine.

Hydroxyflavonole derivatives, synthesis of (V. KOSTANECKI and TAMBOR), A., i, 470.

Hydroxyglutaric acid, formation of, from casein (HABERMANN and EHRENFELD), A., i, 653.

α-Hydroxyglutaric acid (PAOLINI), A., i, 658.

4-α-Hydroxyhexadecyl-1:3-dimethylbenzene (KLAGES), A., i, 613.

2-α-Hydroxyhexadecyl-1:3:5-trimethylbenzene and its chloride (KLAGES), A., i, 613.

***m*-Hydroxyhexahydrobenzoic acid** (*m-hydroxy*cyclo*hexanecarboxylic acid*) (BAUER and EINHORN), A., i, 225.

***p*-Hydroxyhexahydrotoluic acid** (*p-hydroxymethyl*cyclo*hexanecarboxylic acid*), and its phenylurethane and lactone (STEPHAN and HELLE), A., i, 632.

Hydroxyhydroanthranol and its mono- and di-acetate (PLEUS), A., i, 773.

Hydroxyhydrouracil (FISCHER and ROEDER), A., i, 124.

2-Hydroxyindazole and its silver salt and nitroso-derivative (BAMBERGER and DEMUTH), A., i, 651.

γ-Hydroxy-α-ketobutane-αγ-dicarboxylic acid, the phenylhydrazone of the αγ-lactone of, action of hydrochloric acid on (DE JONG), A., i, 122.

6-Hydroxy-2-keto-$\Delta^{3:5}$-dihydropyridinetricarboxylic acid, ethyl ester (ERRERA and PERCIABOSCO), A., i, 116.

3-Hydroxy-5-keto-1-phenyl-2:5-dihydrotriazole and its salts and acetyl derivative (ACREE), A., i, 242.

3-Hydroxy-5-keto-1-phenyl-2- and -4-methyl-4:5-dihydrotriazoles and their salts (ACREE), A., i, 242.

Hydroxyl, interchange of halogen for, in bromo- and chloro-naphthalenediazonium hydroxides (ORTON), P., **1902**, 252.

Hydroxyl ions, presence of, in potassium sulphate solutions (ARNDT), A., i, 62.

Hydroxylamine, electrolytic formation of (TAFEL), A., ii, 559.
catalysis of (TANATAR), A., ii, 387.
action of, on ethyl dimethylpyronedicarboxylate (PALAZZO), A., i, 816.
use of, in qualitative analysis (KNOEVENAGEL and EBLER), A., ii, 697.
additive salts and compounds of, with cadmium and mercury salts (ADAMS), A., ii, 655.
sulphate, interaction of, with Caro's acid (ANGELI and ANGELICO), A., ii, 254.
new colour reaction of (BALL), P., **1902**, 9.
1-Hydroxylaminoanthraquinone-2-sulphonic acid (WACKER), A., i, 298.
o-**Hydroxylaminobenzaldoxime** and its benzylidene derivative (BUHLMANN and EINHORN; BAMBERGER and DEMUTH), A., i, 95.
2-Hydroxy-4:6-lutidine-3-carboxylic acid and its ethyl ester and amide (KNOEVENAGEL and CREMER), A., i, 640.
o-**Hydroxymandelic acid** (FISCHER and SLIMMER), A., i, 621.
o-**Hydroxymercurisalicylic acid**, anhydride of (DIMROTH), A., i, 851.
Hydroxymesitylene, *di*amino- (WENZEL), A., i, 190.
6-Hydroxy-4-methoxybenzoylpropionic acid (PERKIN), T., 231; P., **1901**, 258.
2-Hydroxy-4-mono- and **-4:6-di-methoxybenzoylpyruvic acids**, ethyl esters (v. KOSTANECKI and DE RUIJTER DE WILDT), A., i, 303.
5-Hydroxy-7-methoxychromone, and its acetate (v. KOSTANECKI and DE RUIJTER DE WILDT), A., i, 303.
α-**Hydroxy-*β*-methoxydihydro*iso*eugenol**, bromo- (AUWERS and MÜLLER), A., i, 213.
3-Hydroxy-5-methoxy-2-methylquinone (POLLAK and SOLOMONICA), A., i, 149.
p-**Hydroxy-*m*-methoxyphenylmethane-bis-2:5-dimethylpyrrole-3-carboxylic acid**, ethyl ester (FEIST, WIDMER, and SAKOWITSCH), A., i, 490.
7-Hydroxy-6-methoxyquinaldine and its salts (BOOK), A., i, 465.
3-Hydroxymethyl-2-aminobenzylidene-*p*-nitroaniline, 5-nitro-, and its acetyl derivative (MEYER and STILLICH), A., i, 320.
2-Hydroxy-5-methylazobenzene, 4′-nitro- (MEHNER), A., i, 577.
*iso***Hydroxymethylchrysasin** and its *tetra*bromo- and *tetra*chloro-derivatives and the triacetate of the chloro-compound (LÉGER), A., i, 549, 685.
2-Hydroxy-6-methyl-1:3-diethyldihydrobenziminoazole (FISCHER, RIGAUD, and BECKER), A., i, 400.
β-**Hydroxymethylerythrose.** See Apiose.
β-**Hydroxy-*β*-methyl-*α*-ethylbutyric acid** (GRIGNARD), A., i, 421.
p-**Hydroxy-*p*-methylhexahydroacetophenone** and its semicarbazone (STEPHAN and HELLE), A., i, 632.
4-Hydroxy-6-methylquinazoline (EHRLICH), A., i, 26.
2-Hydroxy-4-methylquinoline, and its 3-acyl and 3-cyano-derivatives and **-3-carboxylic acid** and ethyl ester (CAMPS), A., i, 396.
α-**Hydroxymethylsalicylaldehyde** and its 3-bromo-, and oxime, and their acetyl derivatives, and the oxime of the acetyl compound (AUWERS and HUBER), A., i, 213.
Hydroxymethylsalicylic acid and its methyl ester and amide (AUWERS and HUBER), A., i, 214.
Hydroxymethylsalicylonitrile and its diacetyl derivative (AUWERS and HUBER), A., i, 213.
6-Hydroxymethyl-2:3:4-trimethylquinolinic acid (WOLFF, GABLER, and HEYL), A., i, 676.
5-Hydroxy-4-methyluracil and its acetate (BEHREND and GRÜNEWALD), A., i, 834.
o-**Hydroxynaphthoic acids**, action of alkali hydroxides and of sulphites on (BUCHERER), A., i, 718.
2-Hydroxy-3-naphthoic acid, esters (STROHBACH), A., i, 171.
Hydroxynaphthoic chlorides, 1:2-, 2:1-, and 3:2- (MEYER), A., i, 31.
2-Hydroxy-3-naphtho-*β*-naphthalide (STROHBACH), A., i, 183.
1-Hydroxy-2-naphthoylpyruvic acid, ethyl ester (v. KOSTANECKI and FROEMSDORFF), A., i, 303.
4-Hydroxynicotinic acid (KIRPAL), A., i, 564.
Hydroxynitriles, formation of acetals from (STOLLÉ), A., i, 468.
Hydroxyoxamide and its ethyl ester, silver salt, and acetyl derivative (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1565; P., **1902**, 197.
3-Hydroxyphenanthraphenazine and its acetate and benzoate (WERNER), A., i, 626.
2-Hydroxyphenanthraquinone and its acetate (WERNER), A., i, 628.
3-Hydroxyphenanthraquinone and its acetate and their nitro-derivatives and phenylhydrazones (WERNER), A., i, 626.
9-Hydroxyphenanthrene (PSCHORR and SCHRÖTER), A., i, 672.

9-(or 10-)Hydroxyphenanthrene, 3:10-(or 9-)*di*amino- and 3-nitro-10-(or 9-)amino- (SCHMIDT), A., i, 757.

10-Hydroxyphenanthrene, 9-amino- (*morphigenine*), and its acetyl derivatives and hydrochloride (PSCHORR and SCHRÖTER), A., i, 672; (VAHLEN), A., i, 727.

10-Hydroxy-9-phenanthrylphenylcarbamide (PSCHORR and SCHRÖTER), A., i, 672.

Hydroxyphenoxozone, *di*nitro- (HILLYER), A., i, 50.

5-*p*-Hydroxyphenyl-2-amino-3-methylpheno-$\alpha\beta$-naphthacridine (ULLMANN), A., i, 499.

δ-Hydroxy-α-phenylazo-β-methylimino-δ-*p*-nitrophenylvaleric acid, ethyl ester (PRAGER), A., i, 64, 578.

7-Hydroxy-2-phenyl-1:4-benzopyranol and its salts and acetyl derivatives (BÜLOW and v. SICHERER), A., i, 113.

7-Hydroxy-2-phenyl-4-benzylidene-1:4-benzopyranol, its hydrochloride, picrate, acetyl, benzoyl, and 8-nitroso-derivative (BÜLOW and GROTOWSKY), A., i, 484.

7-(or 5-)Hydroxy-2-phenyl-4-benzylidene-5-(or 7-)methyl-1:4-benzopyranol and its salts and acyl derivatives (BÜLOW and GROTOWSKY), A., i, 555.

***p*-Hydroxyphenylethylamine,** occurrence of, in pancreatic digestion (EMERSON), A., ii, 271.

***o*-Hydroxyphenylethylcarbinol,** *ac-* and *i-* (FISCHER and SLIMMER), A., i, 621.

***o*-Hydroxyphenyl ethyl ketone** (FISCHER and SLIMMER), A., i, 622.

β-Hydroxy-β-phenyl-2-ethyl-6-phenylpyridine, *p*-nitro- (6-*phenyl*-2-*picolyl*-p-*nitrophenylalkine*), and its salts (OLLENDORFF), A., i, 827.

β-Hydroxy-β-phenyl-2-ethylpyridine (*phenyl*-2-*picolylalkine*), *p*-amino- and *p*-nitro-, and their salts (KNICK), A., i, 394.

***o*-Hydroxyphenylmethane-bis-2:5-dimethylpyrrole-3-carboxylic acid,** ethyl ester (FEIST, WIDMER, and SAKOWITSCH), A., i, 490.

β-4-Hydroxyphenyl-β-methoxypropionic acid, α:3:5-*tri*bromo-, and its methyl ester, and their acetates (ZINCKE and LEISSE), A., i, 615.

5-Hydroxy-5-phenyl-10-methyl-5:10-dihydroacridine and its ethers (DECKER, HOCK, and DJIWONSKY), A., i, 830.

4-Hydroxy-5-phenyl-3-methylpyrazole (SACHS and RÖHMER), A., i, 837.

2-Hydroxy-3-phenyl-4-methylquinoline (CAMPS), A., i, 178.

3-Hydroxy-2-phenyl-6-(or 7-)methylquinoxaline, *m*-bromo-*o*-amino- (v. KORCZYNSKI and MARCHLEWSKI), A., i, 647.

***p*-Hydroxyphenyl-α-naphthylamine,** 4-*mono-* and 4:8-*di*-nitro-, and their sulphur derivatives (CHEMISCHE FABRIK VORM. SANDOZ), A., i, 366.

β-4-Hydroxyphenylpropionic acid, 3:5-*di-* and $\alpha\beta$-3:5-*tetra*-bromo-, and the methyl ester of the *di*bromo-compound (ZINCKE and LEISSE), A., i, 615.

***p*-Hydroxyphenylpyridazine,** and its amino- and nitro-compounds (POPPENBERG), A., i, 61.

***p*-Hydroxyphenylpyridazone** and its benzoyl derivative (POPPENBERG), A., i, 61.

6-(or 7-)Hydroxy-3-phenyl*iso*quinoline, and its hydriodide salts, and 1-iodo-derivative (ONNERTZ), A., i, 100.

2-Hydroxy-3-phenylquinoxaline and its 3-*o*-amino- and -nitro-derivatives, and their 6-(or 8-)methyl and -ethoxy derivatives (BURACZEWSKI and MARCHLEWSKI), A., i, 120.

3-Hydroxy-2-phenylquinoxaline, bromoamino- and chloroamino-derivatives (v. KORCZYNSKI and MARCHLEWSKI), A., i, 647.

2-Hydroxy-1-phenyl-4-$\alpha\beta\gamma\delta$-tetrahydroxybutylglyoxaline (STEUDEL), A., i, 399.

***m*-Hydroxyphenyl-*p*-tolylamine,** and its **-sulphonic acids,** and amino-, bromo-, nitro-, and nitroso-derivatives (GNEHM and VEILLON), A., i, 287.

***o*-Hydroxyphenyl *p*-tolyl ketone** and its benzoyl and *di*bromo-derivatives, oxime, and phenylhydrazone (ULLMANN and GOLDBERG), A., i, 792.

***m*-Hydroxyphenyl-*p*-tolylnitrosoamine** and its **-sulphonic acid** (GNEHM and VEILLON), A., i, 287.

4-Hydroxyphthalic acid and its esters, and their conductivity (WEGSCHEIDER), A., i, 617, 618; (WEGSCHEIDER and PIESEN), A., i, 619.

β-Hydroxy-β-piperonyl-α-dimethylpropionic acid and its salts (MUSCHINSKY), A., i, 620.

Hydroxypivalic acid, phosphate of (BLAISE), A., i, 530.
ethyl ester (BLAISE), A., i, 357.

α-Hydroxypropionic acid. See Lactic acid.

5-Hydroxy-1-*iso*propylbenzoquinone, 3:6-*di*chloro- (BÖTERS), A., i, 474.

5-Hydroxy-2-*iso*propylbenzoquinone, 3:6-*di*bromo-, and its *p*-toluidine and xylidine salts (BÖTERS), A., i, 473.

ε-Hydroxy-β-*iso*propylheptoic acid, ethyl ester (WALLACH and FRESENIUS), A., i, 800.

Hydroxy*iso*propylhypophosphorous acid and its salts and esters (MARIE), A., i, 255.

4-α-Hydroxypropyl-1-methylbenzene and its acetate, phenylurethane, and chloride (KLAGES), A., i, 612.

2-β-Hydroxypropyl-6-phenylpyridine, ω-*tri*chloro-, and its platinichloride (OLLENDORFF), A., i, 828.

Hydroxy*iso*propylphosphinic acid and its salts (MARIE), A., i, 431.
and its esters and benzoyl derivative (MARIE), A., i, 714.

2-β-Hydroxypropylpyridine, γ-*tri*chloro- and its salts (FEIST), A., i, 492.

4-Hydroxy-2-*iso*propylquinoline (CAMPS), A., i, 178.

2-α-Hydroxypropyl-1:3:5-trimethylbenzene and its phenylurethane and chloride (KLAGES), A., i, 612.

Hydroxypyrazolone derivatives of the naphthalene series (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 730.

Hydroxypyridines, from meconic acid derivatives (PERATONER), A., i, 493.

6-Hydroxy-4-α-pyridylpyrimidine and its 2-methyl, 2-phenyl, and 2:5-phenylmethyl derivatives and their acetyl compounds (PINNER, DONCHI, DREXLER, and BAY), A., i, 177.

Hydroxypyrrolidine-2-carboxylic acid from gelatin (FISCHER), A., i, 699.

3-Hydroxyquinaldine and its salts (KOENIGS and STOCKHAUSEN), A., i, 693.

4-Hydroxy-2-quinoline (CAMPS), A., i, 178.

Hydroxyquinolines, 2- and 4-, syntheses of (CAMPS), A., i, 178, 396.

6-Hydroxy*iso*quino-β-pyridine and its salts (MARCKWALD and DETTMER), A., i, 235.

2-Hydroxy-1:2:3:6-tetramethyldihydrobenziminoazole (FISCHER, RIGAUD, and BECKER), A., i, 400.

3-Hydroxy-2:2:5:5-tetramethylpyrrolidine and its hydrochloride and mandelate (PAULY), A., i, 560.

Hydroxytetraphenylmethane (v. BAEYER and VILLIGER), A., i, 769.

Hydroxyterephthalic acid, and its esters, and their conductivity (WEGSCHEIDER), A., i, 618, 619.

Hydroxy-toluamide and **-toluonitrile**, *di*nitro-, and compound of the nitrile with aniline (BORSCHE and LOCATELLI), A., i, 226.

2-Hydroxy-*m*-toluic acid (**β-*cresotic acid***), amides, and chloride and their bromo-, nitro- and acetyl derivatives, and ethyl esters (FORTNER), A., i, 150.

Hydroxytoluketone, *tetra*chlorobromo-. See Toluquinol, *tetra*chlorobromo-.

8-Hydroxy-2-*o*-tolylaminonaphthalene-6-sulphonic acid (BADISCHE ANILIN- & SODA-FABRIK), A., i, 92.

β-Hydroxy-β-*p*-tolyl-αα-dimethylpropionic acid, synthesis of, and its salts (ZELTNER), A., i, 371.

Hydroxy-3-*p*-tolylpyridazine and its salts (KATZENELLENBOGEN), A., i, 122.

Hydroxytriaquodipyridinechromium salts (PFEIFFER), A., i, 729.

2-Hydroxy-1:3:5-trimethylbenzene, 4:6-*di*iso*cyano- (KAUFLER), A., i, 278.

2-Hydroxy-1:3:6-trimethyldihydrobenziminoazole and its salts (FISCHER, RIGAUD, and BECKER), A., i, 400.

***N*-Hydroxy-2:4:4-trimethyl-Δ$^{2:5}$-dihydroquinolide** (WOLFF, GABLER, and HEYL), A., i, 676.

β-Hydroxy-βγγ-trimethylpentanedioic acid, isomeric lactonic acids from (BALBIANO), A., i, 741.

***p*-Hydroxytriphenylcarbinol** and its sodium derivative (BISTRZYCKI and HERBST), A., i, 776.

***p*-Hydroxytriphenylmethane** and *di*bromo-, and their acetates (BISTRZYCKI and HERBST), A., i, 777.

γ-Hydroxyundecoic acid (NEF), A., i, 6.

α-Hydroxy-*n*- and **-*iso*-valeranilides** (LAMBLING), A., i, 603.

γ-Hydroxyvaleric acid, α-amino- (FISCHER and LEUCHS), A., i, 269.

α-Hydroxy-*n*- and **-*iso*-valeric acids**, and their ethyl esters, phenylurethanes of, and the lactams of the acids (LAMBLING), A., i, 603.

Hydroxyvinylcoumarin (WIDMAN), A., i, 374.

4-Hydroxy-*m*-xylene, bromo-derivatives and their acetyl compounds (ZINCKE and TRIPP), A., i, 285.

***p*-Hydroxy-xylene.** See also Xylenol.

***o*-Hydroxy-*p*-xylyl alcohol**, methyl ether (AUWERS and ANSELMINO), A., i, 215.
bromide, *tri*bromo- (AUWERS and ANSELMINO), A., i, 215.

***p*-Hydroxy-*p*-xylylacetic acid**, *di*bromo- (AUWERS and SCHUMANN), A., i, 148.

5-Hydroxy-2-*o*-xylylaminonaphthalene-7-sulphonic acid (BADISCHE ANILIN- & SODA-FABRIK), A., i, 92.

5-Hydroxy-xylylene *di*bromide, 2:4:6-*tri*bromo- (ANSELMINO), A., i, 216.

Hydroxy-*p*-xylylene *di*bromide, *tri*bromo-. See *p*-Xylenol, *s*-penta-bromo-.
bromohydrin, *tri*bromo-, methyl ether (AUWERS and ANSELMINO), A., i, 215.
Hyoscine and its salts (HESSE), A., i, 51, 817; (GADAMER), A., i, 173.
Hypertonic salt solutions, effects of intravascular injection of, on blood constituents (VAN LEER), A., ii, 411.
Hyperuranic acid. See Uranic acid.
Hypnotoxin, physiological action of (PORTIER and RICHET), A., ii, 343.
Hypochlorous acid. See under Chlorine.
Hypoiodous acid. See under Iodine.
Hypophosphorous acid. See under Phosphorus.
Hypophysis, physiology of the (V. CYON), A., ii, 162.
Hystazarin and its dimethyl ether, hydrolysis of (LIEBERMANN and HOHENEMSER), A., i, 548.

I.

Ianthone, separation of, from ionone (HAARMANN & REIMER), A., i, 471.
Ibogaine and its salts and physiological action (DYBOWSKI and LANDRIN), A., i, 114.
Ibogine (HALLER and HECKEL), A., i, 174.
physiological action of (LAMBERT and HECKEL), A., ii, 219.
Ichthylepidin in the scales of American fishes (GREEN and TOWER), A., ii, 415.
Illuric acid and its salts and isomeride (TSCHIRCH and KETO), A., i, 167.
Ilvaite from Siorarsuit, Greenland (BÖGGILD), A., ii, 512.
Imino-ethers, synthesis of (LANDER), T., 591; P., **1902**, 72.
transformation of, into acid amides (WISLICENUS and KÖRBER), A., i, 211.
hydrochlorides of, reduction of, to aldehydes and their derivatives and to amines (HENLE), A., i, 790.
Imino*di*thiocarbonic esters, aromatic (DELÉPINE), A., i, 702.
Immune sera, protective substances of (WALKER), A., ii, 163.
substances (PICK), A., ii, 163, 278.
Immunisation against immune serum (WALKER), A., ii, 280.
Immunity, natural, against alkaloids (ELLINGER), A., ii, 162.
Inanition, glycogen during (PFLÜGER), A., ii, 618.
proteid metabolism in (VOIT), A., ii, 33.
Incrustation from the Stone Gallery of St. Paul's Cathedral (CLAYTON), P., **1901**, 201.
Indazole derivatives (FISCHER and BLOCHMANN), A., i, 645.
Indene, mercury compounds of (BOES), A., i, 151.
Indiarubber. See Caoutchouc.
Indican, quantity of, in *Indigofera tinctoria* (SCHULTE IM HOFE), A., ii, 347.
detection of, in urine (STRZYŻOWSKI), A., ii, 186.
Indicator, iodocosin as an (GLÜCKSMANN), A., ii, 473.
litmus as an (BERTHELOT), A., ii, 222.
litmus-silk as (EMICH), A., ii, 45, 351.
Indicators (GLASER), A., ii, 222.
in acidimetry (JUNGCLAUSSEN), A., ii, 46.
See also Analysis.
Indigo, manufacture of, from *Indigofera tinctoria* (SCHULTE IM HOFE), A., ii, 347.
Indigo-red, reduction products of (VAUBEL), A., i, 542.
Indigotin and its polymeride (MAILLARD), A., i, 371.
from ethereal carbonyldiphenylglycinates (BADISCHE ANILIN- & SODA-FABRIK), A., i, 101.
preparation of (ERDMANN), A., i, 290.
formation of, from phenylglycine-*o*-carboxylic acid (VORLÄNDER, MUMME, and WANGERIN), A., i, 454.
reduction products of (VAUBEL), A., i, 542.
methyl derivatives of (KUHARA and CHIKASHIGÉ), A., i, 227.
estimation of, in fabrics (BINZ and RUNG), A., ii, 544.
Indigotin, 6:6′-*di*chloro-, and its **-sulphonic acid** (BADISCHE ANILIN- & SODA-FABRIK), A., i, 458.
Indigo-white, di- and tetra-acetyl derivatives of (VORLÄNDER and DRESCHER), A., i, 458.
carbonyl derivatives of (BADISCHE ANILIN- & SODA-FABRIK), A., i, 96.
Indirubin, formation of, from indigotin (MAILLARD), A., i, 371.
Indole, preparation of, from pyrrole (DENNSTEDT), A., i, 396.
Indole-2-carboxylic acid, azoimide and hydrazide of (PICCININI and SALMONI), A., i, 492.
2-Indoleurethane (PICCININI and SALMONI), A., i, 492.
Indone, *di*bromo- and *di*chloro- (GLAWE) A., i, 782.

Indoneacetic acids (STOBBE and VIEWIG), A., i, 542.
Indophenazine, bromo- and chloro-derivatives (v. KORCZYNSKI and MARCHLEWSKI), A., i, 646.
Indophenazine-7-(or 8-)carboxylic acid (BURACZEWSKI and MARCHLEWSKI), A., i, 121.
Indoxyl, crystallised (VORLÄNDER and DRESCHER), A., i, 456.
formation of, from phenylglycine-*o*-carboxylic acid (VORLÄNDER, MUMME, and WANGERIN), A., i, 454.
and phenol, formation of, as intermediate metabolic products, and their relation to glycuronic acid excretion (LEWIN), A., ii, 272; (MAYER), A., ii, 520.
and urea, correlated production of, in the organism (GNEZDA), A., ii, 339.
Indoxyluria (BLUMENTHAL), A., ii, 620.
Infants, new-born, chemical composition of (CAMERER, SÖLDNER, and HERZOG), A., ii, 413.
iron in the blood of (NICLOUX and VAN VYVE), A., ii, 618.
suckling, nutrition of (OPPENHEIMER), A., ii, 153.
See also Children.
Infusoria, reactions of, with carbonic and other acids (JENNINGS and MOORE), A., ii, 159.
fixed, reactions to stimuli in (JENNINGS), A., ii, 674.
Inorganic compounds, allotropic modifications of (HERZ), A., ii, 82.
electro-affinity as the basis for the systematisation of (LOCKE), A., ii, 240; (ABEGG and BODLÄNDER), A., ii, 642.
insoluble, in colloidal solution (DE BRUYN), A., ii, 646.
Internal friction. See Viscosity.
Intestinal absorption (REID), A., ii, 412.
(rectal) of carbohydrates (REACH), A., ii, 413.
juice, human (HAMBURGER and HEKMA), A., ii, 515.
action of, on abrin and toxins (SIEBER and SCHUMOFF-SIMONOWSKI), A., ii, 680.
of dogs, presence of erepsin in (SALASKIN), A., ii, 571.
wall, passage of proteid through the (COHNHEIM), A., ii, 93.
Intestine, small, absorption of simple stereoisomeric sugars in the (NAGANO), A., ii, 516.
digestion in the (KUTSCHER and SEEMANN), A., ii, 335, 571.
Intramolecular migrations, atomic (MONTAGNE), A., i, 472.
Intramolecular migrations of acyl groups (WISLICENUS and KÖRBER), A., i, 72.
Inversion, velocity of. See Affinity.
points of heats of dilution (COLSON), A., ii, 4, 198.
temperature. See Thermochemistry.
Invertase from yeast (OSHIMA; BOKORNY), A., i, 848.
action of acids and alcohols on (BOKORNY), A., i, 848.
Invertebrates, the respiratory value of coelomic fluid in certain (CUÉNOT), A., ii, 215.
Invert sugar. See under Sugar.
Iodembolite (PRIOR and SPENCER), A., ii, 403.
Iodine, pure (LADENBURG), A., ii, 314.
free, formation of, from iodoform, by organs (ALTENBERG), A., ii, 158.
atomic weight of (LADENBURG), A., ii, 498.
determination of the molecular weight of, by the boiling point method (ODDO), A., ii, 6.
solubility of, in nitrobenzene containing potassium iodide (DAWSON and GAWLER), T., 528; P., **1902**, 69.
catalytic action of, in the bromination of benzene (BRUNER), A., ii, 447.
action of, in the hydrolysis of starch, and dextrins (HALE), A., i, 533.
compounds of, with tellurium (GUTBIER and FLURY), A., ii, 653.
variation in the amount of, in blood (GLEY and BOURCET), A., ii, 619.
amount of, in sheep's thyroid (WOHLMUTH), A., ii, 274.
Iodine bromide, preparation of, and application of, in the analysis of fats and oils (HANUŠ), A., ii, 112.
*tri*chloride, double salts of, with chlorides of bivalent metals (WEINLAND and SCHLEGELMILCH), A., ii, 315.
Hydriodic acid (*hydrogen iodide*), reaction between, and nitric acid (ECKSTÄDT), A., ii, 130.
Iodides of sulphur (MACIVOR), A., ii, 650.
soluble, estimation of, volumetrically (RICHARD), A., ii, 691.
Triiodides (OSAKA), A., ii, 12.
Iodates, action of, on haloid salts, influence of the concentration of the hydrogen ions on the (DITZ and MARGOSCHES), A., ii, 12.
Periodic acid, electrolytic preparation of, and estimation of, in presence of iodic acid (MÜLLER and FRIEDBERGER), A., ii, 556.

Iodine:—
Periodates, preparation of (ROQUES and GERNGROSS), A., ii, 649.
Orthoperiodic acid, conversion of, into *n*-periodic acid (LAMB), A., ii, 252.
Hypoiodous acid (TAYLOR), P., **1902**, 72.
Iodine, detection and estimation of:—
detection of bromine and, in presence of thiosulphates (LEUBA), A., ii, 691.
and hydriodic acid, estimation of, in iodinated proteids (SCHMIDT), A., i, 251; ii, 627.
estimation of, electrolytically, in presence of bromine and chlorine (MÜLLER), A., ii, 287.
estimation of, volumetrically, in presence of bromine and chlorine (THOMAS), A., ii, 472.
Iodine absorption, determination of, by iodine monochloride (WIJS), A., ii, 586.
Iodine atom, configuration of the (PETERS), T., 1350; P., **1902**, 184.
Iodoform, formation of free iodine from, by organs (ALTENBERG), A., ii, 158.
detection and decomposition of (SCHMIDT), A., ii, 109.
detection of, in presence of organic iodine compounds (SCHMIDT), A., ii, 110.
Ionisation and **Ions**. See Electrochemistry.
Ionone, separation of, from ianthone (HAARMANN & REIMER), A., i, 471.
β-Ionone (HAARMANN & REIMER), A., i, 471, 722.
ψ-Ionone, preparation of (HAARMANN & REIMER), A., i, 722.
Iononecarboxylic acids. See Citralideneacetoacetic acids.
Ipecacuanha, Indian, composition of (PAUL and COWNLEY), A., ii, 686.
root, evaluation of (FRERICHS and DE FUENTES TAPIS), A., ii, 711.
Ipohine and its physiological action (HARTWICH and GEIGER), A., i, 115.
Iridium double nitrites with ammonium, potassium, and sodium (LEIDIÉ), A., ii, 566.
chloronitrite, compound of, with potassium chloride (LEIDIÉ), A., ii, 566.
Iron, passive (FINKELSTEIN), A., ii, 81.
crystallisation of (OSMOND and CARTAUD), A., ii, 400.
pure, electrical resistance of (BENEDICKS), A., ii, 439.
increase of electrical resistivity caused by alloying, with various elements (BARRETT), A., ii, 377.
Iron, a reaction of (v. CORDIER), A., ii, 457.
action of ammonia solution on (PENNOCK and MORTON), A., ii, 426.
action of magnesium chloride on (OST), A., ii, 657, 659.
behaviour of salt solutions towards, in presence of copper (OST), A., ii, 658.
compounds of, with silicon (LEBEAU), A., ii, 135, 264, 457.
in hen's eggs (HARTUNG), A., ii, 618.
in the blood of newly born infants (NICLOUX and VAN VYVE), A., ii, 618.
amount of, in lymphatic glands (GUILLEMONAT and DELAMARE), A., ii, 217.
relationship of, and pigments in the liver and skin (FLORESCO), A., ii, 157.
in human liver cells (BIELFELD), A., ii, 517.
condition of, in the spleen (BRODIE), A., ii, 339.
Iron alloys with aluminium (GUILLET), A., ii, 264.
with antimony, copper, lead, and tin, analysis of (PONTIO), A., ii, 478.
with silicon, magnetism of (JOUVE), A., ii, 595.
Iron salts, influence of the separation of sulphur on the precipitation of (COPPADORO), A., ii, 23.
*per*oxide, crystallisation of (DITTE), A., ii, 326.
silicide, formation of (LEBEAU), A., ii, 264.
Ferric chloride, colour changes of (DONNAN and BASSETT), T., 955; P., **1902**, 164.
hydroxide, action of sulphurous acid on (CARPENTER), T., 8; P., **1901**, 212.
oxide and hydroxides (RUFF), A., ii, 22.
action of alumina on, at white heat (WARTH), A., ii, 209.
hydrated. See Hydrogöthite.
sulphate, acid (SCHARIZER), A., ii, 143.
Ferrous salts, oxidation of solutions of, by free oxygen (MCBAIN), A., ii, 209.
chloride, density of aqueous solutions of (DUNN), A., ii, 400.
compound of, with pyridine (PFEIFFER), A., i, 175.
vanadous sulphate (PICCINI and MARINO), A., ii, 664.
Iron organic compounds:—
Ferric compounds, coloured organic (HANTZSCH and DESCH), A., i, 708.
ferrocyanide (MATUSCHEK), A., i, 272.

Iron ore, magnetic, occurrence of monazite in (DERBY), A., ii, 331.
titaniferous, from German East Africa (BORNHARDT and KÜHN), A., ii, 668.
separation of, in basic igneous rocks (VOGT), A., ii, 32.
Iron pyrites. See Pyrites.
Cast iron, condition of silicon in (LEBEAU), A., ii, 135.
Steel, electrical resistance of (BENEDICKS), A., ii, 439.
a reaction of (v. CORDIER), A., ii, 457.
estimation of carbon in (LEFFLER), A., ii, 355.
estimation of carbon in, by direct combustion (BLOUNT), A., ii, 174.
estimation of molybdenum in (AUCHY), A., ii, 430.
estimation of phosphorus and sulphur in (ANTONY), A., ii, 47.
estimation of silicon in (AUCHY), A., ii, 174.
Iron (in general), **estimation and separation of:**—
estimation of, colorimetrically (SEILER and VERDA), A., ii, 699.
estimation of, volumetrically (SCHMATOLLA), A., ii, 108; (GINTL), A., ii, 429.
estimation of, in metabolism experiments (NEUMANN), A., ii, 176, 583.
estimation of, in urine (NEUMANN), A., ii, 583.
electrolytic estimation of copper in (KOCH), A., ii, 357.
estimation of manganese in (NOYES and CLAY), A., ii, 430.
estimation of phosphorus and sulphur in (ANTONY), A., ii, 47.
colorimetric estimation of sulphur in (LINDLAY), A., ii, 425.
estimation of sulphur in, by Eschka's method (STEHMAN), A., ii, 699.
separation of (NICOLARDOT), A., ii, 22.
quantitative separation of, from zirconium (GUTBIER and MÜLLER), A., ii, 701.
Iron-carbon systems, chemical equilibrium of (CHARPY and GRENET), A., ii, 209.
Isatin and its derivatives (BURACZEWSKI and MARCHLEWSKI), A., i, 120; (v. KORCZYNSKI and MARCHLEWSKI), A., i, 646.
Isatinoxime benzyl ether and its bromo-, chloro-, and nitro-derivatives (v. KORCZYNSKI and MARCHLEWSKI), A., i, 648.
Isatocyanin (MARCHLEWSKI), A., i. 616.
Isatoic acid and its hydrogen sodium salt (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 454.
Isatomalononitrile (WALTER), A., i, 374.
Isomerism, distinction between, and polymorphism (WEGSCHEIDER), A., ii, 126; (BRUNI), A., ii, 448.
in the cobalt-tetrammine series (HOFMANN and JENNY), A., ii, 81.
Isomorphism of selenates and tellurates (NORRIS and KINGMAN), A., ii, 15.
Isomorphous mixtures, volume relations and optical characters of (WULFF), A., ii, 444.
Isoprenic acid (IPATIEFF), A., i, 132.
Isotherms for mixtures of hydrogen chloride and ethane (QUINT GZN), A., ii, 60.
Isotonic salt solutions, diuretic action of (HAAKE and SPIRO), A., ii, 416.

J.

Jacarandin and its diacetyl and dibenzoyl derivatives (PERKIN and BRIGGS), T., 217; P., **1902**, 11.
Jacquemase (POZZI-ESCOT), A., i, 655.
Jadeite axes, composition of (BERWERTH), A., ii, 214.
rocks in the Western Alps and in Liguria (FRANCHI), A., ii, 214.
Jadeitite from Cassine (Acqui) (COLOMBA), A., ii, 612.
Jamesonite from New Jersey (CHESTER), A., ii, 611.
Jams, polarisation of (TOLMAN), A., ii, 537.
detection of gelatin and gelose in (DESMOULIÈRE), A., ii, 588.
Jasmine blossoms, oil of (ERDMANN), A., i, 229.
Jellies, polarisation of (TOLMAN), A., ii, 537.
Juniper, empyreaumatic oil of (CATHELINEAU and HAUSSER), A., i, 44.

K.

Kaempferia Galanga, oil of, constituents of (VAN ROMBURGH), A., i, 633.
Kainite. See Agricultural Chemistry.
Kairoline-6-, -7-, and -8-carboxylic acids (FISCHER and ENDRES), A., i, 693.
Kampherol and its salts, and *tri*bromo- and tetra-acetyl derivatives from the flowers of *Delphinium Consolida* (PERKIN and WILKINSON), T., 585; P., **1900**, 182.
and its tetra-acetate (PERKIN), T., 475; P., **1901**, 87.
methyl ether, constitution of (PERKIN and ALLISON), T., 472.

Kaolin from near Spezia, Italy (SALLE), A., ii, 409.
Katabolism, nitrogenous, in the hedgehog (NOÉ), A., ii, 337.
Kephalin from brain (KOCH), A., ii, 676.
Keratin, action of superheated steam on (BAUER), A., i, 846.
Kermes mineral (FEIST), A., ii, 507.
Kerosenes, commercial, from Kieff (KUDISCH), A., i, 333.
Ketocampholenic acid, esters (BÉHAL), A., i, 420.
Ketodihydrocampholenic acid, constitution of (BÉHAL), A., i, 420.
4-Ketodihydrotoluene, 3:5-*di*bromo-1-nitro- (AUWERS), A., i, 217.
3-Keto-1:1-dimethyl-Δ^4-tetrahydrobenzene, bromo-derivatives and 5-chloro- (CROSSLEY and LE SUEUR), P., **1902**, 238.
γ-Keto-$\alpha\delta$-diphenyliminopentane-α-carboxylic acid, ethyl ester, reactions of (SIMON), A., i, 422.
Keto-3:5-diphenyl-Δ^2-tetrahydrobenzene-6-carboxylic acid, ethyl ester (KNOEVENAGEL and SPEYER), A., i, 227.
Ketohexyltetronic acid, benzoyl derivative, and ψ-oxime of (WOLFF, GABLER, and HEYL), A., i, 676.
4-Keto-1-mono- and **-1:3-di-methyl-1-*di*chloromethyldihydrobenzene** (AUWERS and WINTERNITZ), A., i, 218.
2-Ketomethylhexamethylenecarboxylic acid and its ethyl ester (EINHORN and KLAGES), A., i, 74.
α-Keto-β-methylhexolactone-γ-carboxylic acid (FICHTER and PREISWERK), A., i, 443.
2-Ketomethyl*iso*propylhexamethylenecarboxylic acid, ethyl ester (EINHORN and KLAGES), A., i, 75.
4-Keto-5-methyl- and **-5-phenyl-thiazolidine**, 2-thio- (WHEELER and JOHNSON), A., i, 761.
Ketone, $C_9H_{12}O_2$, from 1:8:9-trihydroxyterpane (WALLACH and RAHN), A., i, 804.
$C_9H_{16}O$, and its semicarbazone, from α-methyl-δ-isopropyladipic anhydride (MARTINE), A., i, 630.
$C_{10}H_{10}O_4NCl$, obtained in the preparation of 6:6′-dichloroindigotin (BADISCHE ANILIN- & SODA-FABRIK), A., i, 458.
$C_{13}H_{10}O_3N_2$, and its salts, oxime and phenylhydrazone, from the oxidation of *p*-nitrophenyl-2-picolylalkine (KNICK), A., i, 394.
$C_{19}H_{16}O_3$, from piperonylidene-*p*-methylacetophenone (SORGE), A., i, 380.
Ketone, $C_{22}H_{42}O$, from methyl nonyl ketone (MANNICH), A., i, 593.
Ketones, formation of, from β-chloro-alcohols (KRASSUSKY), A., i, 425.
formation of, from haloid derivatives of olefines (KRASSUSKY), A., i, 261.
synthesis of, by means of magnesium organic compounds (BLAISE), A., i, 164.
method of isolating (NEUBERG and NEIMANN), A., i, 572; (FREUND and SCHANDER), A., i, 696.
behaviour of, towards Tesla rays (KAUFFMANN), A., ii, 191.
interaction of, with acid chlorides (LEES), P., **1902**, 213.
transformation of, into α-diketones (PONZIO and BORELLI), A., i, 659.
comparison of, with sulphoxides (SMYTHE), A., i, 221.
unsaturated dicarboxylic acids from ethyl succinates and (STOBBE), A., i, 459; (STOBBE and NIEDENZU), A., i, 460; (STOBBE, STRIGEL, and MEYER), A., i, 461.
acetylenic, synthesis of, and their hydrolysis (MOUREU and DELANGE), A., i, 164, 253.
aromatic, condensation of (SORGE), A., i, 379.
influence of intranucleal substituents on the reactivity of (POSNER), A., i, 622.
compounds of, with arsenic acid and with orthophosphoric acid (KLAGES), A., i, 624.
cyclic, heat of combustion of (ZUBOFF), A., i, 144.
mixed, preparation of, by heating the mixed calcium salts of organic acids (LUDLAM), T., 1185; P., **1902**, 132.
unsaturated, action of mercaptans on (POSNER), A., i, 296.
test for (PILOTY and STOCK), A., i, 735.
Ketones and Quinones. See also :—
Acetone.
Acetonylacetone.
Acetonylnaphthalimidine.
Acetophenone.
o-Acetoxyindanone.
Acetylacetone.
Acetylaminoacetophenones.
Acetyl-1:1-dimethyl*cyclo*hexanones-3.
Acetylionone.
Acetylmesitylene.
Acetylmethylheptanone.
Acetylmethylheptenone.
2-Acetyl-3-methylquinoxaline.
4-Acetyl-2-phenyl-5-methylfurfuran.
4-Acetyl-2-phenyl-5-methylpyrrole.
2-Acetyl-3-phenylquinoxaline.
p-Acetyltetrahydrotoluene.

Ketones and **Quinones.** See :—
Acridone.
Aldehydo*tri*chloroquino*di*chloride.
Alizarin.
Alkylacetylacetones.
*iso*Amylacetone.
3-Amylpyrazolone.
Anhydrobisdiketohydrindene.
Anhydrobispyrindanedione.
Anhydrotetramethylhæmatoxylone.
Anhydrotrimethylbrazilone.
Anilino-1:2-diketopentamethylene-2-anil hydrochloride.
8-Anilino-1-nitroanthraquinone.
5-Anisidino-2-*iso*propylbenzoquinone.
Anisylideneacetone.
Anisylidenecamphor.
3-Anisylpyridazinone.
3-Anisylpyridazone.
Anthrachrysone.
Anthraquinone.
Anthrarufin.
Antipyrine.
α-Arylaminoanthraquinones.
Asarone.
Benzenesulphophenanthraquinones.
Benzil.
Benzoin.
Benzophenone.
Benzo-1:4-pyrone.
Benzoylacetylacetone.
Benzoylbutyrylmethane.
Benzoylcamphor.
Benzoyldiacetylethane.
Benzoyl-2:4-diethoxyacetophenone.
Benzoyl-5-fluorenone.
αα-Benzoyl-iodo- and -nitro-camphor.
Benzoyloxyphenanthraquinones.
Benzoylphenylacetylene.
Benzoylpyridines.
ω-Benzylacetophenone.
Benzyl *iso*amyl ketone.
Benzylcamphor.
Benzyl cinnamenyl ketone.
Benzyl ethyl ketone.
γ-Benzylethyl methyl ketone.
Benzylideneacetone.
Benzylideneacetophenone.
Benzylidene-*m*-aminoacetophenone.
Benzylidene-*p*-anisylideneacetone.
4-Benzylidenebis-3-phenyl-5-pyrazolone.
4-Benzylidene-1-*p*-bromophenyl-3-phenyl-5-pyrazolone.
Benzylidenecamphor.
Benzylidenedeoxybenzoins.
γ-Benzylidene-ethyl methyl ketone.
Benzylidenementhones.
Benzylidene-*p*-methylacetophenone.
Benzylidenemethyl ethyl ketone.
Benzylidene-α-methylpentanone.
Benzylidenemethyl propyl ketone.

Ketones and **Quinones.** See :—
Benzylidenemethyl *iso*propyl ketone.
Benzylidenepropyl methyl ketone.
Benzylidenethujamenthone.
Benzylidene*iso*thujone.
Benzyl *p*-methoxycinnamenyl ketone.
Benzyl methylcinnamenyl ketone.
Benzyl 3:4-methylenedioxycinnamenyl ketone.
α-Benzylmethyl ethyl ketone.
Benzylmethyl*cyclo*hexanone.
Benzyl methyl ketone.
Benzyl phenylethyl ketone.
Benzyl *n*-propyl ketone.
Benzyl stilbyl ketone.
Bisnaphtharonyl.
*iso*Butylpyrazolone.
Butyrylmesitylene.
3-*iso*Butyryl-1-methyl*cyclo*pentanone-4.
Butyrylphenylacetylene.
Camphidones.
Camphor.
*iso*Camphor.
Camphorphorone.
Camphorquinone.
Chromone.
Chrysarobin.
Chrysazin.
Chrysoquinone.
2-Cinnamoyl-3-methylquinoxaline
Cinnamylideneacetophenone.
Cotoin.
Coumarone.
ψ-Cumyl methyl ketone.
Decane-ζθ-dione.
Deoxybenzoin.
Deoxytrimethylbrazilone.
Diacetyl.
4:6-Diacetyl-5-phenyl-3-methyl*cyclo*hexane-3-ol-1-one.
Dianisylideneacetones.
Dibenzoyldianthranilylmethane.
Dibenzoylethylenes.
Dibenzoylmesitylene.
Dibenzoyloxydiphenanthronylene.
2:5-Dibenzoyloxyquinone.
Dibenzylideneacetone.
Dibenzyl ketone.
Dibenzylmethyl*cyclo*hexanone.
Dibenzyl methyl ketone.
Di*iso*butyl ketone.
Di-*n*- and -*iso*-butyryl.
Dichrysarobin.
3:4-Diethoxybenzylidene-*m*-nitroacetophenone.
2:4-Diethoxy-3′:5′-dimethoxybenzoylacetophenone.
Diethoxyhydrindone.
Diethyl diketone.
Digitoflavone.
Dihydro*iso*phorone.

Ketones and Quinones. See :—
Dihydropulegenone.
3:4-Dihydroxybenzylidene-*m*-nitroacetophenone.
5:7-Dihydroxychromone.
Dihydroxymethylheptanone.
Dihydroxymethyl*cyclo*hexanone.
1:8-Dihydroxynaphthaketones.
2:4-Diketo-5- and -3:5-diphenyltetrahydrothioazole.
p-Diketohexahydrotetrazine.
o-Diketomethyl*cyclo*hexane.
Diketones.
1:2-Diketopentamethylene.
3:5-Diketo-2-phenyltetrahydrothiazole.
5:7-Dimethoxychromone.
Dimethoxyhydrindone
Dimethoxymethylenedioxyacetophenone.
Dimethylaminoacetophenones.
p-Dimethylaminobenzylidene-*m*-aminoacetophenone.
s-Dimethyl*di*aminodi-*o*-tolyl ketone
3:6-Dimethylaminothymoquinone.
Dimethylcoumarones.
Dimethyldihydroresorcin.
Dimethylionones.
3:3-Dimethyl*cyclo*pentanone.
1:3-Dimethylpyridazone.
Dimethylpyrone.
Dinaphthaxanthone.
Dioxypinene.
Diphenacyl.
Dipropionyl.
o-Dipropoxydiphenyltetrahydropyrone.
2:5-Dipropyloxyquinone.
3:5-Di-*o*-toluidino-1-*iso*propylbenzoquinone.
Di*iso*valeryl.
3:5-Dixylidino-1-*iso*propylbenzoquinone.
Di-*as*-*m*-xylyldiketopiperazine.
α-*iso*Dypnopinalcolin.
7-Ethoxy-2-benzylchromone.
6-Ethoxy-1:3-diketo-2-phenylhydrindene.
Ethoxyindone.
3-Ethoxy-5-keto-1-phenyl-2:5-dihydrotriazole.
3-Ethoxyphenanthraquinone.
6-(or 7-)Ethoxy-3-phenyl-1-benzylphthalazone.
4-Ethyl-3-amylpyrazolone.
p-Ethylidenequinone.
α-Ethylluteolin.
14-Ethyl-$\beta_1\beta_2\alpha'_1\beta'_1$-naphthacridine.
Ethyl propyl ketone.
4-Ethyl-3-propylpyrazolone.
Ethylsalicylidenecamphor.
Euxanthone.

Ketones and Quinones. See:—
Fenchone.
Filicyl-*n*-butanone.
Fluorenonequinoline.
Hexahydroxyanthraquinone.
*cyclo*Hexanolones.
Hydrocoumarone.
p-Hydroxyacetophenone.
Hydroxyanthraquinones.
Hydroxybenzophenone.
7-Hydroxy-2-benzylchromone.
α-Hydroxybenzylideneacetophenone.
Hydroxybenzylidene-2-bromoindanones.
6-Hydroxychromone.
Hydroxydihydrotetramethylhæmatoxylone.
Hydroxydihydrotrimethylbrazilone.
α-Hydroxy-αα-dimethylacetonylacetone.
Hydroxydimethylpyrone.
1-Hydroxyerythroanthraquinone.
3-Hydroxy-5-keto-1-phenyl-2:5-dihydrotriazole.
3-Hydroxy-5-keto-1-phenyl-2- and -4-methyl-4:5-dihydrotriazoles.
5-Hydroxy-7-methoxychromone.
3-Hydroxy-5-methoxy-2-methylquinone.
*iso*Hydroxymethylchrysasin.
p-Hydroxy-*p*-methylhexahydroacetophenone.
Hydroxyphenanthraquinones.
o-Hydroxyphenyl ethyl ketone.
3-*p*-Hydroxyphenylpyridazone.
o-Hydroxyphenyl *p*-tolyl ketone.
5-Hydroxy*iso*propylbenzoquinones.
Hydroxypyrazolone.
Hystazarin.
Ianthone.
Indone.
Ionones.
4-Ketodihydrotoluene.
3-Keto-1:1-dimethyl-Δ_4-tetrahydrobenzene.
4-Keto-1-mono- and -1:3-di-methyl-1-*di*chloromethyldihydrobenzene.
4-Keto-5-methyl- and -5-phenylthiazolidine.
3-Keto-1:2:2:5:5-pentamethylpyrrolidine.
2-Ketopentoxazolidine.
4-Keto-1-phenyl-3-methylpyrazolone.
3-Keto-2:2:5:5-tetramethylpyrrolidine.
5-Keto-1:2:4-trimethyl-2-*di*chloromethyldihydrobenzene.
Ketotrimethyldihydro*iso*oxazole.
Luteolin.
γ-Lutidone.
Menthone.
Mesityl methyl ketone.
Mesityl oxide.

Ketones and **Quinones.** See :—
Mesityl pentadecyl ketone.
Methoxybenzophenones.
7-Methoxychromone.
p-Methoxydibenzylideneacetone.
3′-Methoxy-4′-ethoxybenzoyl-2:4-diethoxyacetophenone.
3′-Methoxy-4′-ethoxybenzoyl-2:4:6-trimethoxyethylacetophenone.
2-Methoxyfluorenone.
Methoxyphenanthraquinones.
o-Methoxyphenyl ethyl ketone.
5-Methoxy-1-*iso*propylbenzoquinone.
Methylacetylmethylheptenone.
10-Methylacridone.
Methyl *iso*butenyl ketone.
Methyl *tert.*butyl ketone.
Methyl*tri*chloroquino*di*chloride.
Methyldeoxybenzoin.
Methylenebisacetylacetone.
4-Methylenebis-3-methyl-5-pyrazolone.
4-Methylenebis-3-phenyl-5-pyrazolone.
3-Methyl-5-ethyl-Δ^2-*cyclo*hexenone.
Methyl ethyl ketone.
Methylethylphenacylthetine salts.
3-Methyl-4-ethylpyrazolone.
Methylethylpyridazone.
Methylheptenone.
Methylheptyl ketone.
β-Methylhexanone.
Methyl*cyclo*hexanones.
Methyl*cyclo*hexanose.
Methyl*cyclo*hexenone.
Methyl hexyl ketone.
Methylhydrindone.
Methylionones.
Methyl β-methylhexyl ketone.
Methylnataloe-emodin.
β-Methyl-β-nonene-ζθ-dione.
Methyl nonyl ketone.
ζ-Methyl-α-octene-εη-dione.
Methylpentanones.
β-Methyl*cyclo*pentanone.
Methyl propyl ketone.
Methylpyridazinephthalone.
Methyl-pyridazinone and -pyridazone.
2-Methyl-6-pyridyl methyl ketone.
Methylsalicylidenecamphor.
p-Methyltetrahydroacetophenone.
α-Naphthachromone.
Naphthacridone.
Naphthalidodimethyl ketone.
Naphthazarins.
5-α-Naphthylamino-1-nitroanthraquinone.
Nataloe-emodin.
α-Octene-εη-dione.
Oximinodipropyl ketone.
Oxymethylpyridone.
Parasarone.
*cyclo*Pentanone.

Ketones and **Quinones.** See :—
Δ^2-*cyclo*Pentene-1-one-2-ol.
ω-Phenacetyl-2:4-diethoxyacetophenone.
4-Phenacyl-3:5-dimethyl*iso*oxazole.
Phenacylnaphthalimidine.
4-Phenacyl-1-phenyl-3:5-dimethylpyrazole.
Phenanthraquinone.
3-Phenanthrolquinone.
Phenoquinone.
Phenylacetone.
Phenylacetylacetophenone.
Phenylacetyl-*o*-aminoacetophenone.
Phenylchloromethylenecamphor.
4-Phenyldihydro-2-picolone.
1-Phenyl-2:3-dimethyl-5-pyrazolone.
3-Phenyl-2:6-di-*p*-tolyltetrahydro-1:4-pyrone.
Phenyl ethyl ketone.
Phenyl formazyl ketone.
Phenylhydroxymethylenecamphor.
Phenyliminobenzophenone.
1-Phenyl-3-methylpyrazolone.
3-Phenyl-5-methyl-pyridazinone and -pyridazone.
Phenyl naphthalidomethyl ketone.
Phenyl *n*-propyl ketone.
3-Phenylquinolineazone.
Phenyl tetrahydronaphthyl ketone.
Phenyl *p*-xylyl ketone.
Phorone.
*iso*Phorone.
Pinacolin.
Piperonylidene-*p*-methylacetophenone.
Propionylacetophenone.
Propionylbutyryl.
Propionylmesitylene.
Propiophenone.
n-Propyl *iso*amyl ketone.
4-*iso*Propyldihydroresorcin.
3-Propyl-4-hexylpyrazolone.
*iso*Propylideneacetone.
Pulegenone.
Pulegone.
Pulenone.
Purpurogallin.
Pyrazolones.
Pyridoyl-1-phenylpyrazolones.
4-Pyridyl butyl ketone.
Pyridyl*di*chlorohydroxyquinone.
Pyridyl*tri*chlorotriketopentamethylene.
Pyridyl methyl, ethyl, and propyl ketones.
2-Pyridyl phenethyl ketone.
Pyrodypnopinacolin.
Pyrone.
Quinizarin.
Quinone.
o-Quinone.
Quinone $C_{10}H_6O_4$.

Ketones and Quinones. See :—
Quinone $C_{20}H_{10}O_7$(?).
Quinophthalone.
Resacetophenone.
Rufigallic acid.
Santonin.
Scutellarein.
Scutellarin.
Stilbyl methyl ketone.
Tetrahydronaphthyl methyl ketone.
Tetrahydro-*p*-tolyl methyl ketone.
3:3′:4′:5′-Tetrahydroxyflavone.
2:4:6:4′-Tetramethoxybenzoylacetophenone.
2:4:6:3′-Tetramethoxy-4′-ethoxybenzoylacetophenone.
3:3′:4′:5′-Tetramethoxyflavone.
Tetramethyl*di*aminobenzophenone.
Tetramethylhæmatoxylone.
Thujamenthone.
Thujone.
*iso*Thujone.
Thymoquinone.
Thymoquinonethymolimine.
7-*p*-Toluidino-1-nitroanthraquinone.
5-Toluidino-2-*iso*propylbenzoquinones.
p-Tolyl butyl ketone.
o-Tolyl ethyl ketone.
p-Tolyl methyl ketone.
p-Tolyl propyl ketone.
3-*p*-Tolylpyridazinone.
3-*p*-Tolylpyridazone.
Triacetoneamine.
3:3′:4′-Trihydroxyflavone.
βγδ-Triketopentane.
βγδ-Triketo-δ-phenylbutane.
3′:4′:5′-Trimethoxy-2:4-diethoxybenzoylacetophenone.
2:4:6-Trimethoxydiphenyltriketone.
2:4:6-Trimethoxy-2′-ethoxybenzoylacetophenone.
3:3′:5′-Trimethoxyflavone.
Trimethylbrazilones.
Trimethyldehydrobrazilone.
Trimethyl*cyclo*hexanones.
Trimethyl*cyclo*hexenone.
2:4:4-Trimethyl*cyclo*-Δ^2-hexenone.
4:5:5-Trimethyl*cyclo*pentanone.
3:3:4-Trimethyl-2-quinolone.
Tropinone.
*iso*Valerylacetone.
Vinyldiacetoneamine.
m-Xylidinomethyleneacetylacetone.
m-Xylyl pentadecyl ketone.

Ketonic acid, $C_9H_{16}O_3$ and its semicarbazone from the oxidation of pulegene (Wallach and Colmann), A., i, 724.

$C_9H_{16}O_3$ and its lactone, oxime, and semicarbazone, from the oxidation of *iso*thujone (Wallach), A., i, 801.

β-Ketonic acids, esters, synthesis o (Moureu and Delange), A., i, 164.

optically active (Lapworth and Hann), T., 1491, 1499; P., **1902**, 144, 145.

action of organomagnesium compounds on (Grignard), A., i, 420.

α-derivatives of (Locquin), A., i, 704.

α-substituted, action of nitrous acid on (Bouveault and Locquin), A., i, 704.

Ketonic alcohols, action of nitric acid on (Ponzio), A., i, 134.

3-Keto-1:2:2:5:5-pentamethylpyrrolidine and its additive salts and oxime (Pauly), A., i, 560.

2-Ketopentoxazolidine, 1-nitro- (Franchimont and Lublin), A., i, 427.

1-Keto-5-phenyl-3-cinnamenyl-Δ^2-tetrahydrobenzene-6-carboxylic acid, ethyl ester (Knoevenagel and Speyer), A., i, 227.

4-Keto-1-phenyl-3-methylpyrazolone, and its hydrate, oxime, and phenylhydrazone (Sachs and Barschall), A., i, 504.

ε-Keto-β-*iso*propylheptoic acid and its semicarbazone (Wallach and Fresenius), A., i, 801.

δ-Keto-β-*iso*propylhexoic acid and its oxime and semicarbazide (Crossley), T., 676; P., **1901**, 172; **1902**, 86.

Ketoses, isolation of (Neuberg), A., i, 264, 660.

Ketotariric acid and its oxime (Arnaud), A., i, 343.

3-Keto-2:2:5:5-tetramethylpyrrolidine and its additive salts (Pauly), A., i, 560.

5-Keto-1:2:4-trimethyl-2-*di*chloromethyldihydrobenzene and 3:6-*di*bromo- (Auwers and Winternitz), A., i, 218.

Ketotrimethyldihydro*iso*oxazole and its oxime (Harries), A., i, 184.

Ketoximes, formation of (Francesconi and Milesi), A., i, 660.

Kidney, extracts of, physiological action of (Gérard), A., ii, 575.

diseased, the work of secretion in (Soetbeer), A., ii, 417.

Kilbrickenite, identity of, with geocronite (Prior), A., ii, 404.

Kinases of microbic origin (Delezenne), A., ii, 615.

Kissi powder. See *Piper Famechoni* under Agricultural Chemistry.

Koenenite from Volpriehausen, Hanover (Rinne), A., ii, 611.

Kohlrabi. See Agricultural Chemistry.
Kola nut and its fluid extracts, estimation of alkaloids in (WARIN), A., ii, 483.
Kosidin, α- and **β-Kosin,** and **Kosotoxins** from Koso flowers (BOEHM and LOBECK), A., i, 167.
Krypton, atomic weight and classification of (WILDE), A., ii, 393.
Ktypeite, identity of, with conchite (VATER), A., ii, 89.

L.

Laboratory hood, new construction of (HABERMANN and OESTERREICHER), A., ii, 201.
Labradorite from Minnesota (WINCHELL), A., ii, 462.
Lactams, formation of, from lactim ethers (WISLICENUS and KÖRBER), A., i, 533.
Lactanilide, α-thio- (BECKURTS and FRERICHS), A., i, 764.
Lactic acid (i-*ethylidenelactic acid ; α-hydroxypropionic acid*), formation of, from pentoses (KATSUYAMA), A., i, 257.
influence of acidic oxides on the specific rotation of (HENDERSON and PRENTICE), T., 658 ; P., **1902**, 88.
phenylurethane of, and its salts and lactam (LAMBLING), A., i, 537.
in the blood of geese (KOWALEWSKI and SALASKIN), A., ii, 619.
detection and estimation of, in gastric juice (VOURNASOS), A., ii, 364.
estimation of, in wine (MÖSLINGER), A., ii, 180.
Lactic acid, antimony sodium salt (MORITZ and SCHNEIDER), A., i, 703.
mercury salts (GUERBET), A., i, 703.
potassium salt, influence of acidic oxides on the specific rotation of (HENDERSON and PRENTICE), T., 658 ; P., **1902**, 88.
Lactic fermentation. See Fermentation.
Lactim ethers, conversion of, into lactams (WISLICENUS and KÖRBER), A., i, 533.
Lactobacillus delbrücki and *L. fermentum* (BEYERINCK), A., ii, 97.
Lactone, $C_8H_{14}O_2$, from the compound $C_9H_{18}O_2$ (PETSCHNIKOFF), A., i, 338.
$C_9H_{14}O_2$, from the acid $C_9H_{16}O_3$ (WALLACH), A., i, 802.
$C_{10}H_{16}O_2$, obtained in the preparation of pulegenic acid (BOUVEAULT and TÉTRY), A., i, 420.
$C_{13}H_{16}O_2$, from the acid $C_{13}H_{18}O_3$ (MICHEL and SPITZAUER), A., i, 232.
Lactone, $C_{14}H_{17}O_5N$, from the base $C_{14}H_{18}O_4N_2$ (FREUND and BAMBERG), A., i, 556.
$C_{14}H_{20}O_2$, from the oil of *Asarum canadense* (POWER and LEES), T., 71 ; P., **1901**, 210.
$C_{14}H_{20}O_3$, from the condensation of ethyl iodoacetate and citraldehyde in presence of zinc (TÉTRY), A., i, 585.
$C_{17}H_{14}O_3$ and $C_{17}H_{16}O_3$, from the reduction of α-oxy-γ-phenyl-β-benzylidenebutyrolactone and α-oxy-β-phenyl-γ-benzylbutyrolactone (ERLENMEYER), A., i, 543.
$C_{17}H_{16}O_3$ (four), from the reduction of the lactones $C_{17}H_{14}O_3$ (ERLENMEYER), A., i, 544.
γ-Lactones, unsaturated (THIELE), A., i, 152.
Lactones. See also :—
γ-Acetoxy-βγ-diphenyl-Δ$^{\alpha}$-crotonolactone and -α-benzylidenebutyrolactone.
γ-Acetoxy-α-phenyl-γ-benzylbutyrolactone.
Acetylcoumarin.
Angelic acid, lactones of.
α-Anisylidene-Δ$^{\beta}$-angelicalactone.
Artemisin.
Azlactones.
β-Benzhydrylpicolinolactone.
Benzoximinoketolactone.
Butenelactone.
α-*iso*Butyl-β-*iso*propylbutyrolactone.
Campholenolactone.
Carboxydimethoxymandelic acid, lactone of.
Citrapten.
Crotonylolhomonicotinic acid, lactone of.
Decoic acid, lactone of.
Dehydrocampholenolactone.
Desylacetic acid, lactones of.
4:6-Diacetyl*tri*bromocoumarin.
Dibutyrolactone.
Dihydrobrazilic acid, lactone of.
Dihydrobrazilinic acid, and *di*nitro-, lactones of.
Dihydrocornicularic acid, lactones of.
Dihydrohæmatoxylinic acid, lactone of.
Dihydrolaurolactone.
Dihydroxycampholenolactone.
αβ-Dihydroxy-α-phenyl-γ-benzylbutyrolactone.
Dihydroxyvalerolactone.
4:6-Dimethoxy-α-methylcoumarin.
αα-Dimethylbutyrolactone.
βγ-Dimethylbutyrolactoneacetic acid, lactone of.

Lactones. See :—
γε-Dimethyl-γ-(or δ-)hydroxyhydrosorbolactone.
βγ-Diphenylbutyrolactone.
βγ-Diphenyl-Δ$^{\alpha}$-crotonolactone.
γδ-Diphenylvalerolactone.
Ethylolhomonicotinic acid, lactone of.
Galactonolactone.
β-Hydroxybutyrolactone.
α-Hydroxy-αα-dimethylglutaric acid, lactone of.
Hydroxyethyldimethylacetic acid, lactone of.
p-Hydroxyhexahydrotoluic acid, lactone of.
γ-Hydroxy-α-ketobutane-αγ-dicarboxylic acid, αγ-lactone of.
Hydroxyvinylcoumarin.
m-Meconine.
γ-Methoxy-βγ-diphenyl-Δ$^{\alpha}$-crotonolactone.
Methyltetronic acid, lactone of.
α-Oxy-β-phenyl-γ-benzylbutyrolactone.
α-Oxy-γ-phenyl-β-benzylidenebutyrolactone.
α-Phenyl-γ-benzyl-Δ$^{\alpha}$-crotonolactone.
Phenyl-Δ$^{\alpha}$-crotonolactone.
3-Phenyl-1-hydrindone-2-acetolactone.
Thujamenthoneketolactone.
*iso*Thujoneketolactone.
Trimethylmalic acid, β-lactone of.
4-Trimethylolmethylpyridine-3-carboxylic acid, lactone of.
2-Trimethylolmethylquinoline-3-carboxylic acid, lactone of.
δ-Valerolactone.

Lactonic acid, $C_9H_{14}O_4$, from thujamenthoneketolactone (WALLACH), A., i, 803.

Lactose (*milk sugar*), magnetic rotation of (PERKIN), T., 190; P., **1901**, 256.
quantitative decomposition of, by *Bacillus acidi lactici* (HAACKE), A., ii, 343.
derivatives of (DITMAR), A., i, 532.
estimation of, in milk (PATEIN), A., ii, 536.
estimation of, polarimetrically, in milk (PEYTOUREAU), A., ii, 361.

*iso***Lactose** and its osazone (FISCHER and ARMSTRONG), A., i, 746.

Lacto-serum (FULD), A., i, 845.
coagulation of casein by (MÜLLER), A., i, 409.

Lævulose (d-*fructose*), in human body-juices (NEUBERG and STRAUSS), A., ii, 676.
magnetic rotation of (PERKIN), T., 189; P., **1901**, 256.

Lævulose (d-*fructose*), β-naphthylhydrazones of, isomeric (ALBERDA VAN EKENSTEIN and DE BRUYN), A., i, 747.
phenylmethylosazone, phenylbenzylosazone, and diphenylosazone of (NEUBERG), A., i, 264.

Lamps for spectra (BECKMANN), A., ii, 373.

Langbeinite, formation of (VAN'T HOFF, MEYERHOFFER, and COTTRELL), A., i, 321.

Lanthanum, atomic weight of (BRAUNER and PAVLÍČEK), T., 1243; P., **1901**, 63; (JONES), A., ii, 563.
containing didymium and praseodymium, influence of cerium on (MARC), A., ii, 503.

Lanthanum sulphate, new hydrate of (BRAUNER and PAVLÍČEK), T., 1262.

Lard, Bulgarian (PETKOW), A., ii, 115.

Latent heats. See Thermochemistry.

Laudanine and its ethers (HESSE), A., i, 307.

Lauric acid and its amide, chloride, anilide, toluidide, and salts (CASPARI), A., i, 419.

Laurolene, constitution of (ZELINSKY and LEPESCHKIN), A., i, 143.

*iso***Laurolene**, constitution of, and its hydrobromide and hydriodide (ZELINSKY and LEPESCHKIN), A., i, 143.

Lauronolic acid and its isomeride (BREDT, HOUBEN, and LEVY), A., i, 374.

Lead, radioactive (GIESEL), A., ii, 78, 208; (HOFMANN and STRAUSS), A., ii, 78; (HOFMANN and WÖLFL), A., ii, 261, 397.
electrolytic preparation of (LINN), A., ii, 475.
pseudo-solution of (GUTBIER), A., ii, 610.
action of water on (RŮŽIČKA), A., ii, 77.
action of distilled water on (CLOWES), P., **1902**, 46.

Lead alloys with antimony, copper, iron, and tin, analysis of (PONTIO), A., ii, 478.
with lithium (LEBEAU), A., ii, 256.
with tellurium (FAY and GILLSON), A., ii, 260.

Lead bromo-, chloro-, and iodo-thiobismuthites (DUCATTE), A., ii, 402.
chloride, decomposition-tension of molten (SACHER), A., ii, 121.
hydroxide, solubility of (HERZ), A., ii, 77.
nitrate, spectrum of (HARTLEY), T., 570; P., **1902**, 68.
*di*oxide, electrolytic formation of (CHEMISCHE FABRIK GRIESHEIM-ELEKTRON), A., ii, 322.

Lead:—
Triplumbic tetroxide (*red lead*), volumetric evaluation of (SZTERKHERS), A., ii, 531.
Lead sulpharsenite. See Baumhauerite.
pentathionate, use of, for toning solutions (A. and L. LUMIÈRE and SEYEWITZ), A., ii, 606.
Lead organic compounds:—
thiocyanate, normal and basic (HALL), A., i, 597.
Lead, separation of, from antimony, copper, and tin (RÖSSING), A., ii, 230.
Lead chamber process. See Sulphuric acid under Sulphur.
Leather, estimation of free sulphuric acid in (PAESSLER and SLUYTER), A., ii, 223.
Leaves. See Agricultural Chemistry.
Lecithin from brain (KOCH), A., ii, 676.
presence of, in vegetables (SCHLAGDENHAUFFEN and REEB), A., ii, 625.
action of, on the formed elements of the blood (STASSANO and BILLON), A., ii, 411.
action of, on the organism (DESGREZ and ZAKY), A., ii, 575.
influence of, on the development of bone and nervous tissue (DESGREZ and ZAKY), A., ii, 465.
estimation of, in milk (BORDAS and DE RACZKOWSKI), A., ii, 587.
Lecithins (BERNARD), A., ii, 415.
Lecture experiments, new (BODROUX), A., ii, 391.
Lees, estimation of total tartaric acid in (HUBERT), A., ii, 481.
Leguminosæ. See Agricultural Chemistry.
Leiphæmum (ZOPF), A., i, 465.
Lemon juices, commercial, composition of (SENDTNER), A., ii, 181.
oil (SCHMIDT and ADLUNG), A., i, 45.
examination of (SCHIMMEL & Co.), A., i, 550; (BURGESS and CHILD), A., ii, 232.
Lenzinite from Ventura Co., California (MERRILL), A., ii, 462.
Leonite from Leopoldshall (STRANDMARK), A., ii, 666.
Lepidolite from Brassac (Tarn) (ARSANDAUX), A., ii, 331.
estimation of lithia in (SCHIEFFELIN and LAMAR), A., ii, 428.
Lepidoptera, digestive enzymes of some (SAWAMURA), A., ii, 673.
Leucæmia, lymphatic, metabolism in (HENDERSON and EDWARDS), A., ii, 277.
Leucauramine G (GNEHM and WRIGHT), A., i, 295.
Leucauramines, new reactions of (MÖHLAU, HEINZE, and ZIMMERMANN), A., i, 244.
aryl, synthesis of (MÖHLAU and HEINZE), A., i, 243.
o-**Leucauraminobenzoic acid** and its sodium salt (MÖHLAU and HEINZE), A., i, 244.
Leucine as nutrient for plants (SCHULZE), A., ii, 165, 280.
synthesis of an isomeride of (ÉTARD and VILA), A., i, 207; (VILA and VALLÉE), A., i, 662.
derivatives of (FISCHER), A., i, 350.
separation of, from glutamic acid by gaseous hydrogen chloride (ÉTARD), A., ii, 182.
Leucocytes, physiology of (STASSANO and BILLON), A., ii, 678.
enzyme in, which favours tryptic activity (DELEZENNE), A., ii, 616.
Leucocytosis following intravenous injections of sodium cinnamate (SHAW), A., ii, 277.
Leucyl-leucine (FISCHER), A., i, 351.
Lichens and their constituents (HESSE), A., i, 680; (ZOPF), A., i, 465, 788.
derivatives, rotatory power of (SALKOWSKI), A., i, 228.
Light. See Photochemistry.
Light-filters, simple trough for (WINTHER), A., ii, 437.
Liliaceæ. See Agricultural Chemistry.
Lime. See Calcium oxide and Agricultural Chemistry.
Limestones, crystalline, of Ceylon (COOMÁRA-SWÁMY), A., ii, 567.
Limettin, constitution of, and its *mono*- and *di*-chloro-derivatives (TILDEN and BURROWS), T., 508; P., **1901**, 216.
Limonene from oil of rue (POWER and LEES), T., 1590; P., **1902**, 193.
d-**Limonene** (*carvene*), magnetic rotation of (PERKIN), T., 292; P., **1902**, 29.
l-**Limonene**, magnetic rotation of (PERKIN), T., 292; P., **1902**, 29.
d-**Linalool** from the oil of *Asarum canadense* (POWER and LEES), T., 63; P., **1901**, 210.
Lindera Benzoin seeds, fatty oil in the (CASPARI), A., i, 419.
Linseed oil, constituents of (FOKIN), A., i, 740.
metallic soaps from, and their solubility in certain hydrocarbons (VULTÉ and GIBSON), A., ii, 482.
Lipase in blood (DOYON and MOREL; HANRIOT), A., ii, 571, 672.
in the lower animals (SELLIER), A., ii, 217.
non-existence of, in serum (DOYON and MOREL), A., ii, 464.

Lipase, relation of, to fat metabolism (LOEVENHART), A., ii, 217.
hydrolytic action of, towards salts of acid esters (KASTLE), A., i, 655.
Lipolytic function of the blood (DOYON and MOREL), A., ii, 411.
Liquefaction of gaseous mixtures (CAUBET), A., ii, 382; (KUENEN), A., ii, 491.
Liqueur wines and vintage musts, special characters and analysis of (CARI-MANTRAND), A., ii, 712.
Liqueurs, estimation of essential oils in (MANN), A., ii, 433.
Liquid mixtures of minimum boiling point (HOLLEY), A., ii, 443.
Liquids, physical purity of (DWELSHAUVERS-DERY), A., ii, 644.
specific heat of (CROMPTON), P., **1902**, 236.
formula for the expansion of (MALLET and FRIDERICH), A., ii, 644.
determination of the molecular weight of (KISTIAKOWSKY), A., ii, 307.
correction of the boiling points of, from observed to normal pressure (YOUNG), T., 777; P., **1902**, 108.
volume and density changes in, due to the absorption of gases (WENZEL), A., ii, 125.
new method for the determination of the surface tension of (WHATMOUGH), A., ii, 125.
apparatus for extracting, by chloroform (PREGL), A., ii, 202.
mixed, indices of refraction of (VAN AUBEL), A., ii, 373.
of constant boiling point, composition of (YOUNG), P., **1902**, 215.
vapour pressures and boiling points of (YOUNG), T., 768; P., **1902**, 107, 218; (YOUNG and FORTEY), P., **1902**, 216.
solvent properties of, in relation to the chemical characters and solvent properties of their components (DAWSON), T., 1086; P., **1902**, 179.
organic, estimation of dextrose in (REALE), A., ii, 234.
Lithium, transport number for, in phenol (RIESENFELD), A., ii, 594, 595.
excretion of (GOOD), A., ii, 276.
Lithium alloys with antimony, lead, and with tin (LEBEAU), A., ii, 256.
Lithium antimonide (LEBEAU), A., ii, 256.
nitrate, spectrum of (HARTLEY), T., 565; P., **1902**, 68.
oxide (*lithia*), estimation of, in lepidolite (SCHIEFFELIN and LAMAR), A., ii, 428.
Lithium silicide (MOISSAN), A., ii, 452.
Lithium-ammonium, decomposition of, by ammonium chloride (MOISSAN), A., ii, 72.
action of hydrogen sulphide on (MOISSAN), A., ii, 72.
Lithopone, analysis of (COFFIGNIER), A., ii, 630.
Litmus extract, employment and sensibility of (BERTHELOT), A., ii, 222.
Litmus-silk (EMICH), A., ii, 45, 351.
Liver, the ammonia removing function of the (BIEDL and WINTERBERG), A., ii, 157; (HORODYŃSKI, SALASKIN, and ZALESKI), A., ii, 517.
autolysis of the, acid formation in (MAGNUS-LEVY), A., ii, 517.
behaviour of fat during autolysis of the (SIEGERT), A., ii, 34.
relationship of iron and pigments in the, and skin (FLORESCO), A., ii, 157.
compounds of arsenic in the (v. ZEYNEK), A., ii, 161.
compounds of arsenic and mercury in the (SLOWTZOFF), A., ii, 34.
combination of copper in the (SLOWTZOFF), A., ii, 618.
formation of lymph by the (BAMBRIDGE), A., ii, 414.
formation of phenolglycuronic acid in the (EMBDEN), A., ii, 677.
post-mortem occurrence of glycuronic acid and maltose in the (LÉPINE and BOULUD), A., ii, 218.
degenerated, proteid decomposition products in (TAYLOR), A., ii, 342.
formation of sugar in the, during perfusion of blood through it (KRAUS), A., ii, 572.
boiled, non-formation of sugar in (PAVY and SIAU), A., ii, 217.
of Cephalopods, copper in the (HENZE), A., ii, 94.
Liver cells, human, iron in (BIELFELD), A., ii, 517.
Loeweite, formation of (VAN'T HOFF and O'FARELLY), A., ii, 461.
from Wilhelmshall, Magdeburg-Halberstadt (KUBIERSCHKY), A., ii, 406.
Loganin, detection of (BOURQUELOT), A., ii, 483.
Lophine, *o*-, *m*-, and *p*-amino-, and their salts, and *m*-nitro- (TRÖGER), A., i, 189.
Lucerne. See Agricultural Chemistry.
Luminescence of gases, influence of radioactive substances on the (DE HEMPTINNE), A., ii, 58.
Luminosity, the phenomena of (ARMSTRONG), A. ii, 546.

d-**Lupanine**, decomposition products of (SOLDAINI), A., i, 392, 638.
Lupinic acid and its additive salts and methyl ester (WILLSTÄTTER and FOURNEAU), A., i, 558.
Lupinine, constitution of, and its compound with phenylcarbimide (WILLSTÄTTER and FOURNEAU), A., i, 557.
Luteocobalt salts. See Cobaltammonium salts.
Luteolin and its benzoyl derivatives (PERKIN), T., 1174; P., **1902**, 180.
identity of, with digitoflavone (KILIANI and MAYER), A., i, 47.
Lutidines. See Dimethylpyridines.
Lutidinecarboxylic acids. See Dimethylpyridine-di- and -tri-carboxylic acids.
γ-Lutidone and its hydrazone (PETRENKO-KRITSCHENKO and MOSSESCHWILI), A., i, 190.
Lutidonecarboxylamide (CLAISEN and MEYER), A., i, 208.
ψ-Lutidostyril and its 3:5-*di*bromo-, 3-cyano- and 3- and 5-nitro-derivatives, and **-5-carboxylic acid** and its 3-nitro-derivative (MOIR), T., 100; P., **1901**, 69.
Lymph, formation of, by the liver (BAMBRIDGE), A., ii, 414.
formation and bile secretion (ELLINGER), A., ii, 614.
glands. See Glands.
Lymphagogue action of the strawberry (MENDEL and HOOKER), A., ii, 520.
Lysalbic acid and its salts (PAAL), A., i, 653.
Lysatinine, existence of (SIEGFRIED), A., i, 557.
Lysine, amount of, in vegetable proteids (SCHULZE and WINTERSTEIN), A., i, 193.
detection of (HERZOG), A., i, 486.

M.

Magma, composition of the, at different stages of an eruption (ARSANDAUX), A., ii, 409.
Magmas, density of fluid and solid (DOELTER), A., ii, 332.
Magnesite from Hungary (LOCZKA), A., ii, 89.
Magnesium in the dog (ALOY), A., ii, 618.
metabolism of, in Herbivora (TANGL), A., ii, 272.
Magnesium alloys with aluminium (BOUDOUARD), A., ii, 141.
with cadmium (BOUDOUARD), A., ii, 501.
Magnesium alloys with mercury, action of, on alcohol, and acetaldehyde (MEUNIER), A., i, 335.
with nickel, electrolytic preparation of (COEHN), A., ii, 660.
Magnesium compounds. See Agricultural Chemistry.
Magnesium chloride, density and expansion by heat of solutions of (BREMER), A., ii, 76.
action of, on ammonium phosphates (BERTHELOT), A., ii, 258.
behaviour of, in a steam boiler (OST), A., ii, 657, 659.
behaviour of, in river waters (ERDMANN), A., ii, 454.
compound of, with iodine trichloride (WEINLAND and SCHLEGELMILCH), A., ii, 315.
nitrate, spectrum of (HARTLEY), T., 568; P., **1902**, 68.
oxide (*magnesia*), detection of, in calcium oxalate precipitates (PAGIREFF; TÄUBNER), A., ii, 356.
potassium and rubidium sulphates, anhydrous (MALLET), T., 1548; P., **1902**, 198.
vanadous sulphate (PICCINO and MARINO), A., ii, 1664.
Magnesium organic compounds, action of, on diketones (ZELINSKY), A., i, 593.
action of, on ethylene oxide (BLAISE), A., i, 357.
action of, on β-ketonic esters (GRIGNARD, A., i, 420.
action of, on trioxymethylene (GRIGNARD and TISSIER), A., i, 198.
ring formation by means of (ZELINSKY and MOSER), A., i, 670.
and their use in the synthesis of acids, alcohols and hydrocarbons (GRIGNARD), A., i, 142.
synthesis of acids by means of (ZELINSKY), A., i, 675.
synthesis of tertiary alcohols by means of (KONOWALOFF), A., i, 336.
syntheses of cyclic tertiary alcohols by means of (ZELINSKY and GUTT), A., i, 70.
use of, for the synthesis of ketones (BLAISE), A., i, 164.
Magnesium, detection and estimation of:—
microchemical test for (POZZI-ESCOT), A., ii, 228, 428.
estimation of, in water (GRITTNER), A., ii, 696.
Magnetic ore from Debašrtica (KOVÁŘ), A., ii, 327.
rotation. See Photochemistry.

Magnetism of alloys of iron and silicon (JOUVE), A., ii, 595.
Magnetite from German East Africa (BORNHARDT and KÜHN), A., ii, 668.
Mahwa blossoms. See *Bassia latifolia*.
Maize. See Agricultural Chemistry.
pith, constituents of (BROWNE and TOLLENS), A., ii, 420.
β-Malamic acids, *d*-, *l*-, and *r*-, and their salts (LUTZ), A., i, 596.
Malic acid from stems of rhubarb (CASTORO), A., i, 590.
rotation dispersion of (WINTHER), A., ii, 590.
uranyl derivative of (ITZIG), A., i, 76.
β-*iso*Malic acid and its salts (COOPS), A., i, 259.
Malondihydroxamic acid (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1572.
and its copper salt (SCHIFF), A., i, 430.
Malonic acid, esters, action of diazonium and tetra-azonium chlorides on (FAVREL), A., i, 506.
ethyl ester and amide, action of, on aminoacetylacetone (KNOEVENAGEL and CREMER), A., i, 640.
condensation of, with carbon tetrachloride (DIMROTH), A., i, 740.
sodium derivative, action of, on the isomeric tribromoisopentanes (IPATIEFF and SWIDERSKI), A., i, 132.
sodium salt, action of, on the dibromides $C_nH_{2n}Br_2$ (IPATIEFF), A., i, 588.
substituted, esters, action of, on diazonium chlorides (FAVREL), A., i, 507.
Malonic acid, *di*amino-, derivatives of (WILLSTÄTTER), A., i, 349.
bromo- and chloro-, action of ammonia on (LUTZ), A., i, 658.
*di*bromo- and *mono*- and *di*-chloro-, and their metallic and aniline salts (CONRAD and REINBACH), A., i, 529.
*di*bromo- and *di*iodo-, and their methyl esters (WILLSTÄTTER), A., i, 342.
thiocyano-, diethyl ester (WHEELER), A., i, 28.
Malonic dialdehyde, bromo- (LESPIEAU), A., i, 13.
Malononitrile, condensation of, with aromatic aldehydes (WALTER), A., i, 373.
Malontetranilic acid and **Malontetranthranilic dianhydride** (v. NIEMENTOWSKI), A., i, 614.
Malt, isolation of enzymes from (LINTNER), A., i, 847.
proteid-dissolving enzyme in (EHRICH), A., i, 252.
analysis of (LING), A., ii, 636.
kiln-dried, analysis and testing of (PRIOR), A., ii, 479.
apparatus and method for estimating the extractive matter in (GAWALOWSKI), A., ii, 187.
Malt liquors, estimation of arsenic in (RICHARDSON), A., ii, 628.
Maltase, yeast, synthetical action of (EMMERLING), A., i, 196.
Maltose from the action of ungerminated barley diastase on starch (BAKER), T., 1177; P., **1902**, 134.
magnetic rotation of (PERKIN), T., 190; P., **1901**, 256.
post-mortem occurrence of, in the liver (LÉPINE and BOULUD), A., ii, 218.
Manamyrins (TSCHIRCH and CREMER), A., i, 812.
Mancopalenic acid, **Mancopalic acid**, **α-** and **β-Mancopalolic acids**, and **Mancopaloresen** (TSCHIRCH and KOCH), A., i, 478.
Mandelonitrile, *p*-chloro- (v. WALTHER and RAETZE), A., i, 466.
α-Manelemic acid and its salts and acetyl and benzoyl derivatives, and **β-Manelemic acid** (TSCHIRCH and CREMER), A., i, 812.
Maneleresen (TSCHIRCH and CREMER), A., i, 813.
Manganese, melting point of (HERAEUS), A., ii, 457.
Manganese alloys with aluminium (GUILLET), A., ii, 264.
Manganese chloride, compound of, with ethyl alcohol (BOURION), A., i, 334.
compound of, with iodine trichloride (WEINLAND and SCHLEGELMILCH), A., ii, 315.
ammonium phosphate, estimation of, volumetrically (DAKIN), A., ii, 628.
Manganic hydroxide, action of sulphurous acid on (CARPENTER), T., 10; P., **1901**, 212.
Manganous chloride, compound of, with pyridine (HAYES), A., i, 492.
nitrate, compound of, with cupric oxide (MAILHE), A., ii, 262.
potassium, rubidium and thallous sulphates, anhydrous (MALLET), T., 1549; P., **1902**, 198.
Permanganic acid, mechanism of the action of hydrogen peroxide on (BACH), A., ii, 81.
Manganates, analysis of (HERZ), A., ii, 290.

Manganese, estimation and separation of:—
estimation of (DAKIN), A., ii, 533.
estimation of, volumetrically (RAMAGE), A., ii, 50, 108; (IBBOTSON and BREARLEY; DUFTY), A., ii, 107; (v. KNORRE), A., ii, 108.
estimation of, in iron (NOYES and CLAY), A., ii, 430.
separation of, from aluminium, magnesium or zinc by persulphates in acid solution (DITTRICH and HASSEL), A., ii, 693.
Manganese minerals from Sardinia (RIMATORI), A., ii, 146.
Manganiferous nodules in the boulder-clay of Essex (THRESH), A., ii, 567.
Manganosphærite, a new variety of oligonite (BUSZ), A., ii, 146.
Mangel-wurzels. See Agricultural Chemistry.
Mannan of orchid tubers, digestion of (HÉRISSEY), A., ii, 419.
Manneotetrose and **Manninotriose** (TANRET), A., i, 661.
Mannitol, magnetic rotation of (PERKIN), T., 188; P., **1901**, 256.
influence of, on the vapour pressure of aqueous ammonia solution (PERMAN), T., 484; P., **1901**, 261.
solubility of, in water (FINDLAY), T., 1217; P., **1902**, 172.
action of, on bismuth nitrate (VANINO and HAUSER), A., i, 8.
reaction for (BETTINK), A., ii, 235.
estimation of, in wine (SCHIDROWITZ), A., ii, 291.
Mannose, occurrence of, and test for (STORER), A., ii, 704.
Manures, artificial, methods for the analysis of (KRETSCHMER), A., ii, 105.
See also Agricultural Chemistry.
Maranta. See Agricultural Chemistry.
Marbles of Carrara, saccharoid, composition of (POLLACCI), A., ii, 268.
of Assynt (TEALL and POLLARD), A., ii, 268.
Marc, grape, estimation of tartaric acid in (EHRMANN and LOVAT), A., ii, 480.
Marcasite and pyrites, discrimination between, and estimation of, in mixtures (STOKES), A., ii, 87.
Margarine, influence of the growth of mould on the chemical composition of (CRAMPTON), A., ii, 709.
detection of (UTZ), A., ii, 709.
detection of, in butter (ANNATÒ), A., ii, 113; (BREMER), A., ii, 113, 114; (REINSCH), A., ii, 114.
Margarine, detection of adulterations with, by the sesamé oil reaction (SOLTSIEN), A., ii, 183.
estimation of boric acid in (BEYTHIEN), A., ii, 696.
Mariupolite, an extreme member of the elæolite syenites (MOROZEWICZ), A., ii, 668.
Marrow, condition of, in chronic arsenical poisoning (MUIR), A., ii, 37.
Marshite, composition of (PRIOR), A., ii, 404.
Mass law. See Affinity.
Mastic resin, solubility of (COFFIGNIER), A., i, 634.
Matter, constitution of, and spectroscopy (EGINITIS), A., ii, 437.
Mattes, analysis of (TRUCHOT), A., ii, 228, 290.
Meat, physiological value of (FRENTZEL and SCHREURER), A., ii, 514.
and meat preparations, nutritive value of (PRAUSNITZ), A., ii, 157.
estimation of glycogen and starch in (MAYRHOFER), A., ii, 180.
Meat extracts, physiological value of (FRENTZEL and TORIYAMA), A., ii, 514.
analysis of (MICKO), A., ii, 369.
m-**Meconine** (PERKIN), T., 1027; (GILBODY and PERKIN), T., 1042.
Melanins from proteid (SAMUELY), A., i, 731.
Melanterite from Falun, Sweden (EDGREN), A., ii, 612.
Melibiose and its osazone (BAU), A., i, 347.
Melibiosone (FISCHER and ARMSTRONG), A., i, 745.
Melitriose (*melitose*). See Raffinose.
Mellic acid, magnesium ammonium salts, characterisation of (POZZI-ESCOT), A., ii, 429.
Melting of dissociating compounds (LIDBURY), A., ii, 242.
Melting point of copper, gold, and silver, application of the phase rule to the (RICHARDS), A., ii, 455.
of gold and silver (BERTHELOT), A., ii, 378.
of manganese (HERAEUS), A., ii, 457.
of alloys of sodium with potassium (KURNAKOFF and PUSHIN), A., ii, 136.
Melting point curves, calorimetric determination of the form of pressure (WYCHESLAVTZEFF), A., ii, 381.
Melting point determinations, criticisms on (SCHUYTEN), A., ii, 195.
Membranes, animal, permeability of (GALEOTTI), A., ii, 377.

Memorial lectures: Frankland (ARMSTRONG), P., **1901**, 193; Raoult (VAN'T HOFF), T., 969; P., **1902**, 81.
Mentha Pulegium, essence of (TÉTRY), A., ii, 386.
Menthenes, $C_{11}H_{20}$, from menthone and tetrahydrocarvone (WALLACH and THÖLKE), A., i, 723.
Menthol, magnetic rotation of (PERKIN), T., 309; P., **1902**, 29.
Mentholacetic acid and its ethyl ester and silver salt (WALLACH and THÖLKE), A., i, 799.
Mentholglycuronic acid (BONANNI), A., ii, 160.
and its salts (FROMM and CLEMENS), A., ii, 341.
Menthone, synthesis of, and its acetyl derivative, oxime, and semicarbazone (LESER), A., i, 550.
oxidation of (SPERANSKI), A., i, 384.
Menthyl glycols (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 299.
Menthylcarbinol (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 477.
Menthylthiocarbimide (v. BRAUN and RUMPF), A., i, 275.
Menthylxanthamide (TSCHUGAEFF), A., i, 630.
Mercaptal, $C_{19}H_{14}O_4N_2S_2$, from *p*-nitrophenyl mercaptan and benzaldehyde (BLANKSMA), A., i, 282.
Mercaptans, action of, on unsaturated ketones (POSNER), A., i, 296.
Mercaptans. See also :—
5-Benzoylthioacridol.
Benzyl mercaptan
5-Benzylthioacridol.
ββ-Diamylthiolpentane-3-one.
Diamylthiolstilbene.
Dibenzylthiolstilbene.
Diethythiolstilbene.
Dimethylpyrimidine mercaptans.
αβ-Diphenyl-αα-dibenzyl- and -αα-diphenyl-thiolethane-β-al.
ββ-Diphenylthiol-γ-methylpentane-δ-one.
Diphenylthiolstilbene.
Diphenyl-1:2:4-triazole mercaptans.
Ethylmercaptohydrocotarnine.
Mercapto-butyltetrol- and -methylol-oxazolines.
5-Methylthioacridol.
4-Phenyl-5-aniltriazolone-3-thiol.
α-Phenyl-γγ-diamylthiolbutane-α-al.
Phenyl mercaptan.
5-Phenyl-10-methylthioacridol.
1-Phenyl-5-methyl-1:2:4-triazole-3-mercaptan.
Mercaptans. See :—
5-Phenyl-1-*p*-tolyl-1:2:4-triazole 3-mercaptan.
ε-Phthaliminoamyl mercaptan.
αγγε-Tetra-amyl-αε-diphenylpentane, *tetra*thio-.
ββγγ-Tetrabenzylthiolbutane.
ββεε-Tetrabenzylthiolhexane.
γγζζ-Tetrabenzylthiol-β-methylheptane.
ββδδ-Tetrabenzylthiolpentane.
4-Tetrahydroxybutyl-1-allyl- and -1-phenyliminoazolyl 2-mercaptan.
ββεε-Tetraphenylthiolhexane.
Xylylenethiols.
Mercapto-butyltetrol- and **-methylol-oxazolines** and their silver derivatives (MAQUENNE and ROUX), A., i, 695.
Mercaptothionic acid, $C_8H_{12}OS_3$, and its dibenzoic anhydride (WEIGERT), A., i, 11.
Mercury, colloidal, electrical preparation of (BILLITZER), A., ii, 454.
catalytic decomposition of hydrogen peroxide by (MCINTOSH), A., ii, 310.
aluminium couple, use of, as a halogen carrier (COHEN and DAKIN), T., 1324; P., **1902**, 183.
compounds of, in the liver (SLOWTZOFF), A., ii, 34.
Dimercurammonium bromide, chloride, and nitrite, and mercuric bromide and chloride (RÂY), T., 644; P., **1901**, 96; **1902**, 85.
Mercury alloy (*amalgam*) with ammonium (MOISSAN), A., ii, 71.
with magnesium, action of, on alcohol, and acetaldehyde (MEUNIER), A., i, 335.
with silver from Sala (SJÖGREN), A., ii, 509.
Mercury salts, compounds of, with hydroxylamine (ADAMS), A., ii, 655.
nitrates, decomposition of, by heating (MYERS), A., ii, 503.
potassium and sodium nitrites (ROSENHEIM and OPPENHEIM), A., ii, 21.
red and yellow oxides of, identity of the (KOSTER and STORK), A., ii, 79.
oxychlorides (TARUGI), A., ii, 20.
telluride. See Coloradoite.
Mercuric bromide, action of, on alkali thiocyanates (GROSSMANN), A., i, 749.
bromide and chloride, precipitation of, by sulphuric acid (VIARD), A., ii, 606.
ammonium bromide, chloride, and chlorobromide (RÂY), T., 648; P., **1902**, 85.

Mercury:—
Mercuric chloride, conductivity of, in ethyl chloride, and the influence of temperature on it (EVERSHEIM), A., ii, 596.
iodide, nature of, in solution (KASTLE and REED), A., ii, 324.
oxide, colloidal (PAAL), A., ii, 503.
sulphate, compounds of, with hydrogen chloride (BASKERVILLE and WEIL), A., ii, 208.
Mercurous chloride, decomposition of, by dissolved chlorides (RICHARDS and ARCHIBALD), A., ii, 384.
sulphate, solubility of (DRUCKER), A., ii, 74.
Mercury compounds, aromatic (DIMROTH), A., i, 656, 849; (PESCI), A., i, 849.
organic (BIILMANN), A., i, 665.
with acid amides and imides (LEY and SCHAEFER), A., i, 357.
with coumarone and indene (BOES), A., i, 151.
Mercury acetylides (BURKARD and TRAVERS), T., 1271; P., **1902**, 183.
cyanide, auto-reduction of (MARSH and STRUTHERS), P., **1902**, 249.
Mercuric salts, compounds of, with ethylenediamine, diethylethylenediamine, and piperazine (CHEMISCHE FABRIK AUF AKTIEN), A., i, 348.
thiocyanate, action of potassium cyanide on (ITZIG), A., i, 208.
Mercuribenzoic acid, chloro- (DIMROTH), A., i, 851.
Mercuricineol iodide (SAND and SINGER), A., i, 851.
p-**Mercuriphenyltrimethylammonium** iodide and its iodo-derivative (DIMROTH), A., i, 656; (PESCI), A., i, 849.
o-**Mercuryphenol** (DIMROTH), A., i, 849.
Mercury, detection and estimation of:—
detection of, toxicologically (VITALI), A., ii, 475.
detection of, in urine (LAQUEUR), A., ii, 359.
estimation of, electrolytically (BINDSCHEDLER), A., ii, 532.
estimation of, gravimetrically and volumetrically (COHN), A., ii, 50; (RUPP and KRAUSS), A., ii, 475.
estimation of, in presence of silver (RUPP and KRAUSS), A., ii, 475.
estimation of, in antiseptic solutions containing mercuric chloride, iodide, or cyanide (MEILLÈRE), A., ii, 49.
estimation of, in urine (BARDACH), A., ii, 532.
Mercury, estimation of:—
estimation of, colorimetrically, in urine (ESCHBAUM), A., ii, 476.
Mercury ores, Dalmatian, assay of (EHRMANN and SLAUS-KANTSCHEIDER), A., ii, 359.
Merimine and its salts (GABRIEL and COLMAN), A., i, 842.
*allo***Meroquinenine** and its salts (SKRAUP and ZWERGER), A., i, 725.
Mesityl-β-anil, α-nitro- (HARRIES), A., i, 185.
Mesitylene, influence of, on the rotation of ethyl tartrate (PATTERSON), T., 1097; P., **1902**, 133.
Mesitylene, *tri*amino-, and its triacetyl derivative (WENZEL), A., i, 190.
Mesitylglyoximeperoxide nitrite (HARRIES), A., i, 185.
Mesityl methyl ketone, oxidation of (VAN SCHERPENZEEL), A., i, 103.
Mesitylnitrimine and *iso***Mesitylnitrimine** (HARRIES), A., i, 184.
Mesityl oxide (*methyl* iso*butenyl ketone*; iso*propylideneacetone*) (TITHERLEY), T., 1526; P., **1902**, 187.
oxime of, action of nitrous and nitric acids on (HARRIES), A., i, 184.
Mesityl pentadecyl ketone (KLAGES), A., i, 613.
Mesoporphyrin, comparison of, with phylloporphyrin (MARCHLEWSKI), A., i, 636.
Mesoxalic semi-aldehyde (FENTON and RYFFEL), T., 426; P., **1902**, 54.
Mesoxamide, oxime of, derivatives of (WHITELEY), P., **1902**, 212.
Metabolic disorders, elimination of carbon dioxide in certain (HALL), A., ii, 679.
Metabolism, experimental abnormality of (HILDEBRANDT), A., ii, 411.
and diet (GOODBODY, BARDSWELL, and CHAPMAN), A., ii, 513.
blood analysis in relation to (ASCOLI), A., ii, 33.
influence of abundant proteid food on (FRANK and TROMMSDORFF), A., ii, 615.
influence of muscular work on (KAUP), A., ii, 615.
carbohydrate (CREMER), A., ii, 154.
fat, relation of lipase to (LOEVENHART), A., ii, 217.
nitrogenous, *rôle* of crude fibre in (USTJANTZEW), A., ii, 514.
during nervous excitement (BENEDICT), A., ii, 218.
in a case of Bright's disease (BUTLER and FRENCH), A., ii, 466.
proteid (GRUBER), A., ii, 156.

Metabolism, proteid, low (HARLAY and GOODBODY), A., ii, 466.
and alcohol (NEUMANN), A., ii, 154; (ROSEMANN), A., ii, 274.
influence of fat and carbohydrate on (TALLQVIST), A., ii, 273.
and subcutaneous injections of dextrose (SCOTT), A., ii, 337.
in inanition (VOIT), A., ii, 33.
in fever (WEBER), A., ii, 277.
during curare poisoning (FRANK and VOIT), A., ii, 101.
in dogs, influence of sodium nitrate on (ROST), A., ii, 33.
in horses (PFEIFFER; ZUNTZ and HAGEMANN), A., ii, 272.
in man (SPIEGEL), A., ii, 93.
in man with special reference to proteid requirements (SIVÉN), A., ii, 513.
human, *rôle* of purine derivatives in (BURIAN and SCHUR), A., ii, 33; (LOEWI), A., ii, 157.
in acute gout (VOGT), A., ii, 160.
in lymphatic leucæmia (HENDERSON and EDWARDS), A., ii, 277.
in phloridzin diabetes (LEWIN), A., ii, 272; (MAYER), A., ii, 520.
of phosphates (FOLIN and SHAFFER), A., ii, 337.
of phosphorus, calcium, and magnesium in Herbivora (TANGL), A., ii, 272.
Metabolism experiments, estimation of iron in (NEUMANN), A., ii, 176, 583.
β-Metacopaivic acid (TSCHIRCH and KETO), A., i, 167.
Metaformaldehyde. See Trioxymethylene.
Metakoenenites (RINNE), A., ii, 612.
Metallic articles, antique, composition of (BERTHELOT), A., ii, 261.
chlorates, hydrates of (MEUSSER), A., ii, 392.
cyanides, constitution of (WADE), T., 1596; P., **1902**, 65; (MARSH), P., **1902**, 248.
haloids, double (WELLS), A., ii, 11.
hydroxides, interpretation of certain modifications of (HANTZSCH), A., ii, 396.
nature of alkaline solutions of (HANTZSCH), A., ii, 395.
heavy, solubility of, in sodium hydroxide (RUBENHAUER), A., ii, 396.
and sulphides, dialysis experiments with (HERZ), A., ii, 608.
nitrates, absorption spectra of (HARTLEY), T., 556; P., **1902**, 67, 239.
oxides, action of carbon dioxide and alkali salts on (KÜHLING), A., ii, 79; (SACKUR; BODLÄNDER), A., ii, 204.
Metallic salts, physical properties of solutions of, in water (BILTZ and MEYER), A., ii, 310.
electro-affinity as a basis for the systematisation of (LOCKE), A., ii, 240.
molecular weight of, in acetone (JONES), A., ii, 196.
double, solubility and decomposition of, in water (RIMBACH), A., ii, 306.
molten, action of aluminium on (FORMENTI and LEVI), A., ii, 141.
behaviour of solutions of, towards copper and towards iron in presence of copper (OST), A., ii, 657, 658.
action of cupric hydroxide on (MAILHE), A., ii, 140, 261.
action of, on gold chloride (OECHSNER DE CONINCK), A., ii, 664.
action of, on Protista (GOLDBERGER), A., ii, 675.
action of sodium thiosulphate on (FAKTOR), A., ii, 25.
solutions, action of bismuth oxide on (ALOY), A., ii, 360.
sulphates, compounds of, with hydrogen chloride (BASKERVILLE), A., ii, 208.
sulphides, electrical resistance of (GUINCHANT), A., ii, 486.
thiocyanates, action of, on carbonyl chloride (DIXON), P., **1902**, 240.
tools, Egyptian (COLSON), A., ii, 398.
Metals, colloidal, electrical preparation of (BILLITZER), A., ii, 454.
banded flame spectra of (HARTLEY and RAMAGE), A., ii, 189.
ultra-violet spark spectra of (ADENEY), A., ii, 57.
E.M.F. of, in cyanide solutions (CHRISTY), A., ii, 193, 440.
conductivity and atomic heat of (STREINTZ), A., ii, 595.
potential differences of, in vapours and in some solid electrolytes (v. HASSLINGER), A., ii, 118.
velocity of solution of (ERICSON-AURÉN and PALMAER), A., ii, 64.
distillation of, and the physical properties of distilled metals (KAHLBAUM, ROTH, and SIEDLER), A., ii, 259.
action of fused sodium dioxide on (DUDLEY), A., ii, 564.
finely divided, action of, in the formation of amines from nitro-compounds (SABATIER and SENDERENS), A., i, 701.
action of, in the hydrogenation of the oxides of carbon (SABATIER and SENDERENS), A., i, 333; ii, 317.

Metals, finely divided, action of, in the hydrogenation of unsaturated hydrocarbons (SABATIER and SENDERENS), A., i, 525, 701.
reduced, use of, in the hydrogenation of nitrogen oxides (SABATIER and SENDERENS), A., ii, 605.
estimation of, in presence of organic matter (MEILLÈRE), A., ii, 288.
Metanilic acid, *di*iodo- (KALLE & Co.), A., i, 716.
Metaphosphoric acid. See under Phosphorus.
Metastannic acid. See under Tin.
Metathorium oxychloride. See under Thorium.
Meteoric irons (COHEN), A., ii, 463.
from Guatemala (MEUNIER), A., ii, 333.
from Surprise Springs, California (COHEN), A., ii, 613.
action of copper sulphate on (FARRINGTON), A., ii, 569.
Meteoric stone from Zavid, Bosnia (BERWERTH), A., ii, 570.
Meteorite from Admire, Kansas (MERRILL), A., ii, 569.
from Bacubirito, Mexico (WARD), A., ii, 669.
from Casas Grandes (TASSIN), A., ii, 670.
stony, which fell at Felix, Alabama (MERRILL), A., ii, 92.
from Hopewell Mounds, Ohio (FARRINGTON), A., ii, 671.
from Long Island, Kansas (FARRINGTON), A., ii, 670.
from Los Reyes, Mexico (FARRINGTON), A., ii, 671.
from Kenton Co. (FARRINGTON), A., ii, 671.
from Niagara (PRESTON), A., ii, 670.
from South Australia (GOYDER), A., ii, 32.
from Veramin, Persia (WARD), A., ii, 148.
Methane, formation of (MOISSAN), A., i, 253.
new synthesis of (SABATIER and SENDERENS), A., i, 333 ; ii, 317.
preparation of, and slow oxidation of, at low temperatures (BONE and WHEELER), T., 535 ; P., **1902**, 51.
heat of combustion and of dissociation of (MIXTER), A., ii, 60.
Methane, nitro-, condensation of, with aromatic aldehydes (BOUVEAULT and WAHL), A., i, 682.
Methanedisulphonic acid (DELÉPINE), A., i, 133.
Methanesulphon-amide and **-anilide** (DUGUET), A., i, 429.
Methenyl compounds, mixed (ERRERA), A., i, 117.
Methenylbisfluorene (?) (WISLICENUS and DENSCH), A., i, 291.
Methenyldianthranilacetic acid and anhydride (v. NIEMENTOWSKI), A., i, 614.
1¹-Metho-1¹-butenylbenzene. See **β**-Phenyl-**β**-amylene.
Methoethenylbenzene. See **β**-Allylbenzene.
1¹-Metho-1¹-propenylbenzene. See **β**-Phenyl-**β**-butylene.
6¹-Metho-6¹-propenyl-1:3:4-trimethylbenzene. See **β**-**ψ**-Cumyl-**β**-butylene.
Methoxalylaminoazobenzene (WIELEŻYŃSKI), A., i, 510.
Methoxides, basic, of salts of weak acids (WISLICENUS and STOEBER), A., i, 202.
Methoxyanilinophosphoric acid, barium salt (CAVEN), T., 1374.
Methoxyanilinophosphoryl chloride (CAVEN), T., 1373.
4-Methoxyazoxybenzene, 3:5-*di*bromo- (JACKSON and FISKE), A., i, 362.
o-**Methoxybenzaldehyde** (v. BAEYER and VILLIGER), A., i, 770.
Methoxybenzene, *di*bromoamino- (JACKSON and FISKE), A., i, 362.
Methoxybenzophenones, 3- and 4- (ULLMANN and GOLDBERG), A., i, 792.
p-**Methoxybenzyltetrahydroquinaldine** and its salts (BIALON), A., i, 828.
4-Methoxy*iso*carbostyril (GABRIEL and COLMAN), A., i, 642.
7-Methoxychromone and its **-2-carboxylic acid** (v. KOSTANECKI, DE RUIJTER DE WILDT, and FEINSTEIN), A., i, 304.
p-**Methoxydibenzylideneacetone**. See Benzylidene-*p*-anisylideneacetone.
Methoxydihydroanthracene, bromonitro-, nitro-, and *iso*nitro- (MEISENHEIMER), A., i, 796.
2-Methoxy-4:6-dimethylpyrimidine and its compound with mercuric chloride (ANGERSTEIN), A., i, 123.
γ-Methoxy-βγ-diphenyl-Δ$^{\alpha}$-crotonolactone (THIELE and STRAUS), A., i, 155.
3′-Methoxy-4′-ethoxybenzoyl-2:4-diethoxyacetophenone (v. KOSTANECKI and RÓŻYCKI), A., i, 105.
3′-Methoxy-4′-ethoxybenzoyl-2:4:6-trimethoxyethylacetophenone (v. KOSTANECKI and RÓŻYCKI), A., i, 105.
4-Methoxy-4-ethoxyquinol-1-nitrolic acid, 3:5-*di*nitro-, potassium salt (MEISENHEIMER), A., i, 797.
α-Methoxy-*p*-ethylphenol, bromo-derivatives of (ZINCKE, SIEBERT, and REINBACH), A., i, 607.

p-**Methoxy-5-ethyl-2-stilbazole** and its salts (BIALON), A., i, 829.
2-Methoxyfluorenone (WERNER), A., i, 629.
p-**Methoxyhydratropaldehyde** and its oxime (BOUGAULT), A., i, 452.
p-**Methoxyhydratropic acid** and its salts and isomerides (BOUGAULT), A., i, 453.
4-Methoxy-1-α-hydroxypropylbenzene, and its acetate and phenylurethane (KLAGES), A., i, 609.
Methoxyl, estimation of (MOLL VAN CHARANTE), A., ii, 434.
groups, modification of Zeisel's method for the estimation of (HEWITT and MOORE), T., 318; P., **1902**, 8.
estimation of, in sulphur compounds (KAUFLER), A., ii, 291.
4-Methoxy-2-methyl- and **-3-phenylbenzoxazole** (HENRICH and RHODIUS), A., i, 448.
6-Methoxy-3-methylpyridazine (POPPENBERG), A., i, 61.
2:3-Methoxynaphthol, and its acyl derivatives and the action of phosgene on (ENGELHARDT), A., i, 674.
p-**Methoxy-ω-nitrostyrene** (BOUVEAULT and WAHL), A., i, 683.
Methoxyphenanthraquinones, 2- and 3- (WERNER), A., i, 627.
2-Methoxyphenanthrene and its **-9-carboxylic acid** (PSCHORR and SEYDEL), A., i, 97.
2-Methoxyphenanthrene, bromo- (PSCHORR and KLEIN), A., i, 97.
3-Methoxyphenanthrene, and its *di*-bromo-derivative (PSCHORR and KLEIN), A., i, 97.
3-Methoxyphenol, 2-amino-, and its hydrochloride, picrate, and triacetyl derivative, and *p*-amino- and *p*-nitroso- (HENRICH and RHODIUS), A., i, 447.
p-**Methoxyphenylacetaldoxime** (BOUVEAULT and WAHL), A., i, 683.
β-3-Methoxy-α-phenyl-6-amino- and **-6-nitro-cinnamic acid** (PSCHORR and SEYDEL), A., i, 97.
7-Methoxy-2-phenyl-1:4-benzopyranol (BÜLOW and v. SICHERER), A., i, 113.
7-Methoxy-2-phenyl-4-benzylidene-1:4-benzopyranol (BÜLOW and GROTOWSKY), A., i, 484.
7-(or 5-)Methoxy-2-phenyl-4-benzylidene-5-(or 7-)methyl-1:4-benzopyranol (BÜLOW and GROTOWSKY), A., i, 555.
o-**Methoxyphenyl ethyl ketone** (FISCHER and SLIMMER), A., i, 622.
6-Methoxy-3-phenyl-5-methylpyridazine (OPPENHEIM), A., i, 187.
11-Methoxy-1-phenylnaphthaphenazonium salts (KEHRMANN, BECKER, and CAPATINA), A., i, 571.
2-*p*-Methoxy-6-phenylstilbazole and its salts (OLLENDORFF), A., i, 828.
Methoxyphosphoryl chloride (CAVEN), T., 1373.
α-**Methoxyphthalic acid**, methyl ester (ONNERTZ), A., i, 101.
5-Methoxy-1-*iso*propylbenzoquinone, 3:6-*di*chloro- (BÖTERS), A., i, 474.
p-**Methoxysalicylic acid** (PERKIN), T., 231, 1021; P., **1900**, 106; **1901**, 258; **1902**, 147; (GILBODY and PERKIN), T., 1053; P., **1899**, 28; **1900**, 106.
p-**Methoxy-2-stilbazole** and its amino-derivative and salts (BIALON), A., i, 828.
Methoxysulphinic acid, ammonium salt (GOLDBERG and ZIMMERMANN), A., i, 738.
Methoxy-*p*-toluidinophosphoric acid, barium and potassium salts (CAVEN), T., 1374.
Methoxy-*p*-toluidinophosphoryl chloride (CAVEN), T., 1374.
p-**Methoxytriphenylcarbinol** and methyl ether and its ether and *di*bromo- (BISTRZYCKI and HERBST), A., i, 777.
p-**Methoxytriphenylmethane** (BISTRZYCKI and HERBST), A., i, 777.
Methyl, displacement of benzyl by, in substituted nitrogen compounds (JONES), P., **1901**, 205.
Herzig and Meyer's method of estimating (BUSCH), A., i, 501.
Methyl alcohol, properties of mixtures of, with benzene, and with benzene and water (YOUNG and FORTEY), T., 740; P., **1902**, 105.
properties of mixtures of, with water (YOUNG and FORTEY), T., 718; P., **1902**, 105.
action of, on its sodium derivative (GUERBET), A., i, 583.
detection of, in ethyl alcohol (HABERMANN and OESTERREICHER), A., ii, 110; (SCHOORL), A., ii, 703.
detection and estimation of, in commercial formaldehyde (DUYK), A., ii, 110.
Methyl chloride, action of potassium hydride on (MOISSAN), A., i, 253.
*di*fluoroethyl ether (SWARTS), A., i, 130.
phenyl- and *p*-tolyl-iminodithiocarbonate (DELÉPINE), A., i, 702.
Methylacetylmethylheptenone (LESER), A., i, 262.
10-Methylacridone (PICTET and PATRY), A., i, 644; (DECKER), A., i, 691.

Methylal, effect of, on some fresh-water Algæ (BOUILHAC), A., ii, 40.
p-**Methylallylbenzene** and its nitrosochloride (KLAGES), A., i, 612.
Methylallyltetrahydroquinolinium iodide (WEDEKIND), A., i, 234.
Methylamine, action of, on cuminaldehyde and furfuraldehyde (SCHWABBAUER), A., i, 230.
compounds of, with silver haloids (WUTH), A., i, 594.
Methyl*di***amino-2:6-azobenzene**, action of, on benzaldehyde (PERUCCHETTI), A., i, 330.
2-Methylaminobenzyl-*p***-nitroaniline**, 5-nitro-, and its diacetyl derivative (MEYER and STILLICH), A., i, 320.
o-**Methylaminodiphenylamine** and its hydrochloride (FISCHER, RIGAUD, and KOPP), A., i, 188.
Methylaniline, oxidation of (BAMBERGER and VUK), A., i, 275.
Methylaniline, 2:4- and 4:2-bromonitro-, 2:6:4- and 4:6:2-*di*bromonitro-, and *o*- and *p*-nitro- (BLANKSMA), A., i, 600.
tetra- and *penta*-nitro-1-nitro- (BLANKSMA), A., i, 442.
Methylanthranilic acid and its methyl ester and nitroso-derivative (SCHULTZ and FLACHSLÄNDER), A., i, 778.
methyl ester (SCHIMMEL & Co.), A., i, 96.
Methylanthranilic acid, ω-cyano-, esters (BADISCHE ANILIN- & SODA-FABRIK), A., i, 451, 718.
and their acetyl derivatives (ERDMANN), A., i, 290.
Methylarsenic acid, disodium salt, composition and estimation of (ADRIAN and TRILLAT), A., ii, 588.
estimation of, volumetrically (FALIÈRES), A., ii, 544.
disodium salt (*arrhenal*), estimation of, alkalimetrically (ASTRUC), A., ii, 370.
Methylarsine and its oxide (PALMER and DEHN), A., i, 86.
Methylazobenzene, nitroamino-derivatives (MEHNER), A., i, 577.
Methylazotates, metallic (HANTZSCH and LEHMANN), A., i, 325.
m-**Methylbenzenyl-***p***-amino-***m***-thioxylenol** (SCHULTZ and TICHOMIROFF), A., i, 402.
1-Methylbenziminoazole, 3-methiodide of (FISCHER and RIGAUD), A., i, 399.
4-Methylbenzylazoimide, decomposition of, by acids (CURTIUS and DARAPSKY), A., i, 844.
p-**Methylbenzylidene-hydrazine** and **-benzylidenehydrazine** (CURTIUS and FRANZEN), A., i, 832.
Methyl-bromo- and **-chloro-ethylamines** and their salts (MARCKWALD and FROBENIUS), A., i, 23.
Methyl*di***bromo-xyloquinol** *iso***butyrate**, and its bromo- and acetyl derivatives (AUWERS and SIGEL), A., i, 217.
Methyl *iso***butenyl ketone.** See Mesityl oxide.
1-Methyl-3-*tert.***-butylbenzene**, 2-iodo- (KLAGES and STORP), A., i, 671.
β-**Methyl-β-butylene.** See Amylene.
δ-**Methyl-α-***iso***butylhexoic acid.** See Undecoic acid.
Methyl *tert.***butyl ketone.** See Pinacolin.
Methylcamphocarboxylic acid, methyl and ethyl esters, crystallography of (MINGUIN), A., i, 658.
Methyl-camphorimide, and **-camphoronitrile**, crystallography of (MINGUIN), A., i, 658.
Methylcarboxyaconitic acid (*butylenetetracarboxylic acid*), ethyl ester (RUHEMANN), T., 1213; P., **1902**, 181.
Methylchloroethylbenzamide (MARCKWALD and FROBENIUS), A., i, 23.
Methyl*tri***chloroquino***di***chloride**, *di*-chloro- (BILTZ and KAMMANN), A., i, 162.
1-Methyl-*l***-coniine** and its salts (AHRENS), A., i, 391.
o-**Methyldeoxybenzoin** and its semicarbazone (BLAISE), A., i, 164.
Methyldiethylbetaine (WILLSTÄTTER), A., i, 268.
N-**Methyldihydroacridine** (PICTET and PATRY), A., i, 644; (DECKER), A., i, 691.
p-**Methyldihydro-2-stilbazole** and its salts (DIERIG), A., i, 827.
Methylene, new compounds of (DESCUDÉ), A., i, 149, 339, 451.
derivatives, condensation products of, with aromatic nitroso-compounds (SACHS), A., i, 118.
ethylene *di*sulphide hydrochloride, imino- (WHEELER and MERRIAM), A., i, 538.
*di*iodide, action of, on aryl- and naphthyl-amines (SENIER and GOODWIN), T., 280; P., **1902**, 12.
*di*thiocarbonate phenylhydrazone (BUSCH and LINGENBRINK), A., i, 573.
Methylene-α-alanine (SCHIFF), A., i, 85.
Methyleneaminoacetonitrile (KLAGES), A., i 355.
Methyleneaniline and its homologues, new bases from (ERDMANN), A., i, 91.

Methylenebisacetylacetone (RABE and ELZE), A., i, 711.
Methylenebisaniline, oxidation of (BAMBERGER and TSCHIRNER), A., i, 276.
Methylenebisanthranilic acid and its salts and diacetyl derivative (HELLER and FIESSELMANN), A., i, 779.
Methylenebisdimethylphloroglucinol (BOEHM), A., i, 39.
4-Methylenebis-3:5-dimethylpyrazole (RABE and ELZE), A., i, 711.
4-Methylenebis-3-methyl- and **-phenyl-5-pyrazolone** (RABE and ELZE), A., i, 710.
Methylenecitric acid (STERNBERG), A., i, 259; (CHEMISCHE FABRIK AUF AKTIEN), A., i, 424.
Methylenediamine, attempts to prepare derivatives of (KUDERNATSCH), A., i, 427.
Methylenedi-*p*-hydrazotoluene (RASSOW and RÜLKE), A., i, 404.
Methylenedi-2-hydroxy-3-naphthoic acid, action of diazonium chloride on (STROHBACH), A., i, 161.
Methylenedimethylsuccinic acid (BONE and SPRANKLING), T., 51; P., **1901**, 243.
2:3-Methylenedioxy-1-*iso*butylenebenzene (MUSCHINSKY), A., i, 621.
Methylenedioxyphenylmethanebis-2:5-dimethylpyrrole-3-carboxylic acid, ethyl ester (FEIST, WIDMER, and SAKOWITSCH), A., i, 490.
Methylenedipiperidine and its hydriodide and aurichloride (SCHMIDT; KÖHLER), A., i, 487.
Methylenedisuccinic acid. See Pentane-$\alpha\beta\delta\epsilon$-tetracarboxylic acid.
3:2-Methyleneimino-benzyl- and **-benzylidene-*p*-nitroaniline**, 5-nitro- (MEYER and STILLICH), A., i, 320.
Methyleneoxide diacetate (DESCUDÉ), A., i, 738.
γ-Methyl-γ-ethylaconic acid and its barium salt (STOBBE, STRIGEL, and MEYER), A., i, 462.
Methylethylaminoacetic acid, methyl ester and copper salt (WILLSTÄTTER), A., i, 268.
6-Methyl-1-ethylbenziminoazole, 3-ethiodide of (FISCHER, RIGAUD, and BECKER), A., i, 400.
Methylethylbutylcarbinol. See Octyl alcohol.
5-Methyl-3-ethyl-$\Delta^{1:5}$-dihydrophenylacetic acid and its ethyl ester and amide (WALLACH and BÖTTICHER), A., i, 799.
***N*-Methylethyleneimine** and its salts (MARCKWALD and FROBENIUS), A., i, 23.
1-Methyl-3-ethyl*cyclo*hexane, and 3-bromo-, optically active (ZELINSKY), A., i, 666.
3-Methyl-5-ethyl-Δ^2-*cyclo*hexenone (WALLACH and BÖTTICHER), A., i, 799.
γ-Methyl-γ-ethylidenepyrotartaric acid and its salts (STOBBE, STRIGEL, and MEYER), A., i, 461.
2-Methyl-1-ethylindole, 5-chloro- (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 493.
γ-Methyl-γ-ethylitaconic acid and its salts and esters (STOBBE, STRIGEL, and MEYER), A., i, 461.
Methyl ethyl ketone, condensation of, with benzaldehyde (HARRIES and MÜLLER), A., i, 295.
condensation of, with ethyl succinate (STOBBE, STRIGEL, and MEYER), A., i, 461.
γ-Methyl-γ-ethylparaconic acid, **β**-bromo- (STOBBE, STRIGEL, and MEYER), A., i, 462.
1-Methyl-3-ethyl*cyclo*pentane, optically active (ZELINSKY), A., i, 665.
1-Methyl-3-ethyl*cyclo*pentanol-3 (ZELINSKY and GUTT), A., i, 70.
Methylethylphenacylthetine salts (POPE and NEVILLE), T., 1558; P., **1902**, 199.
3-Methyl-4-ethylpyrazolone (LOCQUIN), A., i, 705.
Methylethylpyridazone (POPPENBERG), A., i, 61.
2-Methyl-5-ethylpyridine, action of anisaldehyde on (BIALON), A., i, 828.
4-Methyl-3-ethylpyridine, condensation of, with formaldehyde (KOENIGS), A., i, 394.
Methylethyluracils, 1:3- and 3:1-, 5-nitro- (BEHREND and THURM), A., i, 833.
Methylethylxanthines (BOEHRINGER & SÖHNE), A., i, 505.
Methyl*iso*eugenol, oxidation of (BOUGAULT), A., i, 453.
Methylfenchene (ZELINSKY and ZELIKOFF), A., i, 3.
Methylfluorene (WISLICENUS and DENSCH), A., i, 291.
Methylfluoreneoxalic acid, ethyl ester (WISLICENUS and DENSCH), A., i, 291.
Methylglyceraldehyde and its acetal (WOHL and FRANK), A., i, 532.
***n*-Methylgranatanine**, preparation of, from *n*-methylgrantonine (PICCININI), A., i, 488.
Methyl group, influence of, on ring formation (GILBODY and SPRANKLING), T., 787; P., **1900**, 224.
influence of the, on the toxicity of organo-metallic compounds (LAFFONT), A., ii, 620.

Methylheptenol. See Octenyl alcohol.
Methylheptenone, constitution of (HARRIES), A., i, 345.
and its oxime and semicarbazone (WALLACH, MEYER, and MITTELSTENSCHEID), A., i, 81.
Methylheptenone, bromo-, and its oxime, semicarbazone and benzylidene compound (WALLACH and BLEMBEL), A., i, 80.
Methylheptenylamine and its derivatives (WALLACH), A., i, 81.
Methyl-β-heptinylcarbinol. See Noninyl alcohol.
Methylheptylcarbinol. See Nonyl alcohol.
δ-Methyl-γ-heptylene (1-*methylpropyl*-2-*ethylethylene*). See Octylene.
Methyl heptyl ketone and its carbazone from oil of rue (POWER and LEES), T., 1588; P., **1902**, 193.
reduction of (MANNICH), A., i, 592.
p-**Methylhexahydrobenzylaniline** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 90.
Methylhexahydrocinchomeronic acid, diethyl ester and its methiodide (SKRAUP and PICCOLI), A., i, 565.
1-Methyl*cyclo*hexane, 3-iodo- (ZELINSKY), A., i, 598.
1-Methyl*cyclo*hexane-3-acetic and **-3-malonic acids** (ZELINSKY and ALEXANDROFF), A., i, 74.
2-Methyl*cyclo*hexanecarboxylic acid (*hexahydro-o-toluic acid*) and its isomeride, and their anilides (GOLDSCHMIDT), A., i, 541.
1-Methyl*cyclo*hexane-3-carboxylic acid, synthesis of (ZELINSKY), A., i, 675.
1-Methyl*cyclo*hexane-3-ol-3-acetic acid, ethyl ester (TÉTRY), A., i, 584; (ZELINSKY and GUTT), A., i, 585.
1-Methyl*cyclo*hexane-3-ol-3-propionic and **-*iso*butyric acids,** ethyl esters, and their condensation with oxalic acid (ZELINSKY and GUTT), A., i, 585.
1-Methyl*cyclo*hexane-3-one, condensation of, with ethyl α-bromopropionate and with α-bromoisobutyrate (ZELINSKY and GUTT), A., i, 585.
and its bromo-derivative (ZELINSKY and ROSCHDESTWENSKY), A., i, 674.
β-Methyl*cyclo*hexanone, oxidation of (SPERANSKI), A., i, 384.
derivatives of (TÉTRY), A., i, 469.
compound of, with benzylideneacetophenone (STOBBE), A., i, 472.
Methyl*cyclo*hexanose (ZELINSKY and ROSCHDESTWENSKY), A., i, 674.
Methyl*cyclo*hexene (*tetrahydrotoluene*), and its nitrosate and nitrolepiperidide (WALLACH), A., i, 750; (WALLACH and FRANKE), A., i, 806.
1-Methyl*cyclo*hexene, active isomerides of (ZELINSKY), A., i, 598.
1-Methyl*cyclo*-Δ^3-hexene-3-acetic acid and its ethyl ester (TÉTRY), A., i, 584.
β-Methyl-βε-hexenoic acid. See **γδ-*iso*-**Heptenoic acid.
δ-Methyl-γ-hexenoic acid. See Heptenoic acid.
Methyl*cyclo*hexenone and its oxime (WALLACH), A., i, 750.
Methyl*cyclo*hexenonehydroxylamino-oxime, oxidation of (HARRIES), A., i, 361.
δ-Methylhexoic acid. See Heptoic acid.
Methyl hexyl ketone, specific heat and heat of vaporisation of (LUGININ), A., ii, 548.
Methylhexylpyruvic acid, ethyl ester, and its oxime (BOUVEAULT and LOCQUIN), A., i, 704.
Methyl*cyclo*hexylthiocarbimide (v. BRAUN and RUMPF), A., i, 275.
d-**Methylhydrindone** and its oximes, hydrazones and semicarbazones (KIPPING), P., **1902**, 34.
Methylhydroxycarbamide (FRANCESCONI and PARROZZANI), A., i, 140.
Methylimino*di*thiocarbonic acid, methyl ethyl and benzyl methyl esters, and their additive salts (DELÉPINE), A., i, 597.
Methylindenes from coal tar (BOES), A., i, 534.
2-Methylindole, 5-chloro- (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 493.
11-Methylindophenazine and **10-Methyl-ψ-indophenazine** (BURACZEWSKI and MARCHLEWSKI), A., i, 120.
N-**Methylindoxylic acid,** methyl esters (VORLÄNDER and MUMME), A., i, 452.
Methylionones, α- and β- (HAARMANN & REIMER), A., i, 471.
Methyl-lactoside and its hepta-acetyl derivative (DITMAR), A., i, 532.
Methyl-lupuline and its methiodide (WILLSTÄTTER and FOURNEAU), A., i, 558.
Methylmalonamic acid, ethyl ester (FISCHER and DILTHEY), A., i, 270.
γ-Methyl-α-methylene*cyclo*pentane (SPERANSKI), A., i, 341.
Methyl β-methylhexyl ketone and its oxime and semicarbazone (LEES), T., 1595; P., **1902**, 193.
β-Methylmorphimethine and its methiodide and benzoate (KNORR and SMILES), A., i, 817.

γ-Methylmorphimethine and its benzoate (KNORR and HAWTHORNE), A., i, 818.
δ-Methylmorphimethine and its methiodide and benzoate (KNORR and HAWTHORNE), A., i, 818.
Methylnaphthionic acids. See Methylnaphthylaminesulphonic acids.
1-Methylnaphthylamine-6-sulphonic acid (FUSSGANGER), A., i, 280.
Methylnaphthylamine-4- and **-6-sulphonic acids**, 1- and 2- (BADISCHE ANILIN- & SODA-FABRIK), A., i, 91.
Methylnataloe-emodin (LÉGER), A., i, 549.
β-Methyl-β-nonene-ζθ-dione. See Acetylmethylheptenone.
Methylnonylcarbinol. See Undecyl alcohol.
Methyl nonyl ketone and its semicarbazone from oil of rue (POWER and LEES), T., 1588; P., **1902**, 193.
reduction of (MANNICH), A., i, 592.
derivatives of (CARETTE), A., i, 346.
ζ-Methyl-α-octene-εη-dione (LESER), A., i, 262.
Methyl-β-octinylcarbinol. See Decinyl alcohol.
2-α-Methylolethyl-3-methylquinoline and its salts (KOENIGS and BISCHKOPF), A., i, 179.
Methyloxalacetanil and its phenylhydrazone and bromo-derivative (FICHTER and PREISWERK), A., i, 443.
Methyloxazolidines, 2- and 3- (KNORR and MATTHES), A., i, 57.
Methylparaconic acid, *tri*chloro-, substitution of hydrogen for chlorine in (MYERS), A., i, 590.
β-Methylpentane. See *iso***Hexane.**
Methyl*cyclo*pentane, synthesis of (ZELINSKY and MOSER), A., i, 670.
1-Methyl*cyclo*pentane-3-carboxylic acid, amide, and chloride (ZELINSKY), A., i, 675.
β-Methylpentane-βδ-diol and its diacetate (FRANKE), A., i, 255.
See also Dihydroxyhexane.
β-Methyl*cyclo*pentanemethylidenecarboxylic acid, and its amide and nitrile (SPERANSKI), A., i, 341.
1-Methyl-1-*cyclo*pentanol, synthesis of (ZELINSKY and MOSER), A., i, 670; (ZELINSKY and NAMJETKIN), A., i, 672.
1-Methyl-3-*cyclo*pentanol and its iodide (ZELINSKY), A., i, 598.
β-Methyl*cyclo*pentanolacetic acid, esters (SPERANSKI), A., i, 341.
β-Methyl*cyclo*pentanone, condensation of, with ethyl bromoacetate (SPERANSKI), A., i, 341.
Methylpentanones, α- and β-, benzylidene derivatives of (WALLACH and SPERANSKI), A., i, 723.
β-Methyl-δ-pentanone-αα-dicarboxylic acid and its ethyl ester and silver salt (KNOEVENAGEL and BRUNSWIG), A., i, 641.
1-Methyl-Δ²-*cyclo*pentene, active (ZELINSKY), A., i, 598.
Methylpentosan, occurrence of, in nature (SOLLIED), A., ii, 219.
Methylphenazone salts (WOHLFAHRT), A., i, 509.
4-Methylpheno-β-naphthacridine, 3-amino- (ULLMANN), A., i, 730.
2-Methyl-γ-phenonaphthaxanthone (STROHBACH), A., i, 172.
3-Methylphenoxazine (KEHRMANN and URECH), A., i, 567.
***N*-Methylphenyleneiminoazole.** See 4:5-Diphenylene-1-methyliminoazole.
Methylphloroglucinol hydrochloride, amino- (BOEHM), A., i, 38.
mono- and di-alkyl ethers, and their dibromo- and acetyl derivatives (HERZIG and EISENSTEIN), A., i, 772.
2-Methylphloroglucinol 3:5-dimethyl ether, and its nitroso-derivative (POLLAK and SOLOMONICA), A., i, 148.
Methylphloroglucinolcarboxylic acid, and its monomethyl ether, and their methyl esters and acetyl derivatives (HERZIG and WENZEL), A., i, 464.
β-Methylpimelic acid (*hexanedicarboxylic acid*), derivatives of (EINHORN and KLAGES), A., i, 74.
Methylpiperidine. See Pipecoline.
1-Methylpiperidine-2:6-dicarboxylic acid and its methyl ester and its methiodide (WILLSTÄTTER and LESSING), A., i, 561.
α-Methyl-δ-*iso*propyladipic acid (*octanedicarboxylic acid*), identity of, with dihydrocamphoric acid (MARTINE), A., i, 629.
Methylpropylcarbinol. See Amyl alcohol.
1-Methylpropyl-2-ethylethylene. See Octylene.
2-Methyl-5-*iso*propyl-tetra- and **-hexahydrobenzaldehyde** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 102.
2-Methyl-5-*iso*propylhexahydrobenzylamine, -aniline, and **-ethylamine** (FAREWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 90.
2-Methyl-5-*iso*propylhexahydrobenzyldimethylamine and 6-chloro- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 90.

δ-Methyl-α-*iso*propylhexoic acid. See Decoic acid.

ε-Methyl-β-*iso*propyl-αγ-hexylene glycol. See αγ-Decylene glycol.

Methyl propyl ketone, condensation of, with benzaldehyde (HARRIES and BROMBERGER), A., i, 792.

4-Methylpyrazole and its **dicarboxylic acid** (KLAGES), A., i, 497.

3-Methylpyridazine and 6-chloro-derivative (POPPENBERG), A., i, 61.

Methylpyridazinephthalone (POPPENBERG), A., i, 62.

3-Methylpyridazone and **Methylpyridazinone** (POPPENBERG), A., i, 61.

Methylpyridines. See Picolines.

2-Methylpyridine-6-carboxylic acid, ethyl ester (PINNER, DONCHI, DREXLER, and BAY), A., i, 178.

4-Methylpyridinecarboxylic acid (*homonicotinic acid*), condensation of, with acetaldehyde (KOENIGS), A., i, 180.

Methylpyridinecarboxylic acids. See also Picolinecarboxylic acids.

Methylpyridinetricarboxylic acid, m. p. 208° (DOBBIE and LAUDER), T., 146; P., **1901**, 252.

2-Methyl-6-pyridoylacetic acid and its salts (PINNER, DONCHI, DREXLER, and BAY), A., i, 178.

2-Methyl-6-pyridyl methyl ketone and its platinichloride (PINNER, DONCHI, DREXLER, and BAY), A., i, 178.

4-Methylpyrimidine, amino-, chloro-, bromoamino-, and chloroamino-derivatives of (GABRIEL and COLMAN), A., i, 498.

4-Methylpyrimidine-6-carboxylic acid and its salts (ANGERSTEIN), A., i, 123.

2-Methylpyrrole-3:4:5-tricarboxylic acid, ethyl ester (FEIST and STENGER), A., i, 490.

1-Methylpyrrolidine, physiological action of (TUNNICLIFFE and ROSENHEIM), A., ii, 681.

1-Methylpyrrolidine-2-carboxylic acid (WILLSTÄTTER and ETTLINGER), A., i, 233.

1-Methylpyrrolidine-2:5-dicarboxylic acid and its additive and metallic salts, methyl ester and its methiodide, and its isomeride (WILLSTÄTTER and LESSING), A., i, 561.

1-Methylpyrrolidine-2:3:4:5-tetracarboxymethylamide (WILLSTÄTTER and LESSING), A., i, 561.

Methylpyruvic acid, formation of, from pyruvic acid (ERLENMEYER), A., i, 595.

ethyl ester, oxime of (BOUVEAULT and LOCQUIN), A., i, 704.

1-Methyl-4-ψ-quinol, 3:5-*di*bromo-, and its acetyl and benzoyl derivatives (AUWERS), A., i, 218.

2-Methylquinoline. See Quinaldine.

7-Methylquinoline, sulphur base from, *tetra*nitrate and hydrochloride of the acetyl compound of (EDINGER and EKELEY), A., i, 231.

8-Methylquinoline, iodo- (HOWITZ), A., i, 397.

1-Methyl-2-quinolone, *tri*nitro- (DECKER), A., i, 494.

Methylrubazonic acid, synthesis of (PRÖSCHER), A., i, 505.

Methylsalicylaldehyde, α-3-*di*bromo- (AUWERS and HUBER), A., i, 213.

5-Methylsalicylic acid, α-chloro- and its methyl ester (AUWERS and HUBER), A., i, 214.

Methylsalicylic chloride (FISCHER and SLIMMER), A., i, 621.

Methylsalicylidenecamphor, crystallographic properties of (MINGUIN), A., i, 632.

4-Methylselenoantipyrine (MICHAELIS and STEIN), A., i, 318.

4-Methylstilbazole, *p*-amino- and *p*-nitro-, and their salts (KNICK), A., i, 825.

p-**Methyl-2-stilbazole** and **-2-stilbazoline** and their salts (DIERIG), A., i, 826.

γ-**Methylsorbic acid** (DOEBNER), A., i, 340.

p-**Methylstyrene**, αβ-*di*chloro-, action of phenylhydrazine and of phenylmethylhydrazine on (KUNCKELL and VOSSEN), A., i, 645.

p-**Methyltetrahydroacetophenone** and its semicarbazone (STEPHAN and HELLE), A., i, 632.

2-Methyltetrahydro*iso*quinoline and its compound with ethyl iodoacetate (WEDEKIND and OECHSLEN), A., i, 118.

1-Methyltetrahydroquinolinecarboxylic acids. See Kairolinecarboxylic acids.

Methyltetramethylenedicarboxylic acid and its ethyl ester and salts (IPATIEFF and MICHAELADZE), A., i, 589.

2-Methyl*cyclo*tetramethylene-1:3-disulphone, and its bromide (AUTENRIETH and HENNINGS), A., i, 389.

Methyltetronic acid and its alkaloidal salts, lactone, and phenylhydrazide (RUFF and KOHN), A., i, 591.

Methyltetrose and its phenylbenzylhydrazone and ethylmercaptal (RUFF and KOHN), A., i, 591.

5-Methylthioacridol and its salts (EDINGER and ARNOLD), A., i, 181.

Methylthioantipyrine (MICHAELIS and BINDERWALD), A., i, 317.

Methyldithiocarbamic acid, esters (DELÉPINE), A., i, 702.
Methylthiocyanomalonic acid, ethyl ester (WHEELER and JOHNSON), A., i, 761.
3-Methyltoluidine, 4-nitro- (FISCHER and RIGAUD), A., i, 399.
α-Methyltricarballylic acids (*butanetricarboxylic acids*), synthesis and dissociation constants of, and their cyano-derivatives, esters, and anhydro-acids (BONE and SPRANKLING), T., 29; P., **1901**, 215.
Methyltrimethylene, action of bromine on, in absence of light (DEMJANOFF), A., i, 334.
Methyltriose and its phenylosazone and phenylbenzylhydrazone (WOHL and FRANK), A., i, 532.
***N*-Methyltriphenazinoxazinecarbazole.** See Triphenoxazine-5-phenylazine.
Methyluracil, oxidation of (BEHREND and GRÜNEWALD), A., i, 834.
alkyl derivatives, constitution of (BEHREND and THURM), A., i, 832.
β-Methyluracil, 5-nitro-, and its **-4-carboxylic acid** and its salts (BEHREND and THURM), A., i, 833.
δ-Methyluric acid, constitution of (BEHREND and THURM), A., i, 832.
8-Methylxanthine (BOEHRINGER & SÖHNE), A., i, 125.
Micrococcus and *Mucor Rouxianus*, effect of, on potatoes (VUILLEMIN), A., ii, 343.
Micro-organisms, mode of utilisation of tertiary carbon by (MAZÉ), A., ii, 578.
mode of utilisation of ternary nourishment by (MAZÉ), A., ii, 577.
decomposition of bread by (KÖNIG, SPIECKERMANN, and TILLMANS), A., ii, 686.
See also Moulds.
Microsporon audouini, chemical action of (ÉMERY), A., ii, 38.
Miersite, composition of (PRIOR), A., ii, 404.
Milfoil, oil of (AUBERT), A., i, 810.
Milk, human, composition of (RICHMOND), A., ii, 677.
and its substitutes, comparative digestibility of (TUNNICLIFFE), A., ii, 673.
analysis of, use of the refractometer in the (UTZ), A., ii, 539.
calculation of the simultaneous addition of water to, and withdrawal of cream from (GÉNIN), A., ii, 183.
presence of nitrates in, as an indication of adulteration (GERBER and WIESKE), A., ii, 540.
Milk, decrease in the acidity of (KIRSTEN), A., ii, 365, 540.
heated, detection of (DU ROI and KÖHLER; STORCH; UTZ; ARNOLD and MENTZEL), A., ii, 539.
detection of citric acid in (WÖHLK), A., ii, 364; (DENIGÈS), A., ii, 365.
fresh and sour, detection of artificial colouring matters in (BLYTH), A., ii, 540.
detection of formaldehyde in (RIEGLER), A., ii, 585.
test for preservatives in (LEACH), A., ii, 113.
estimation of fat in, by means of the refractometer (HALS and GREGG), A., ii, 708.
estimation of lactose in (PATEIN), A., ii, 536.
estimation of lactose in, polarimetrically (PEYTOUREAU), A., ii, 361.
estimation of lecithin in (BORDAS and DE RACZKOWSKI), A., ii, 587.
estimation of phosphoric acid in (REIGER), A., ii, 225.
sheep's, use of Gerber's apparatus for the estimation of fat in (BEGER and WOLFS), A., ii, 482.
See also Agricultural Chemistry.
Milk sugar. See Lactose.
Minerals, fusion point of, and the conclusions derived therefrom (BRUN), A., ii, 461.
fusibility of, and their solubility in magmas (DOELTER), A., ii, 28.
action of ammonium chloride on (CLARKE and STEIGER), A., ii, 269.
occurring in Australian bat guano (MACIVOR), A., ii, 460.
Bulgarian (KOVÁŘ), A., ii, 327.
from Casal di Pari (Province of Grosseto) (DE ANGELIS D'OSSAT), A., ii, 665.
from the Ilmen Mountains (SUSCHTSCHINSKY), A., ii, 30.
from the Pacific States (TURNER), A., ii, 461.
Minerals, new. See also:—
Anapaite.
Arsensulfurite.
Baumhauerite.
Brunsvigite.
Chalmersite.
Esmeraldaite.
Hydrogöthite.
Iodembolite.
Koenenite.
Manganosphærite.
Metakoenenite.
Mooraboolite.
Natroalunite.
Natrojarosite.

Minerals, new. See :—
Natron-phlogopite.
Neotantalite.
Pigeonite.
Plumbojarosite.
Pseudomesolite.
Schertalite.
Serendibite.
Sulfurite.
Titanomagnetite.
Vanthoffite.
Mineral waters. See Water.
Mirabilite, separation of, in the Karabugas Gulf (KURNAKOFF), A., ii, 510.
Mixtures with maximum or minimum vapour pressure (KUENEN and ROBSON), A., ii, 599.
solid binary, melting of, by cooling (ROOZEBOOM), A., ii, 490.
ternary, vapour pressure of (SCHREINEMAKERS), A., ii, 61, 243, 380, 599.
Molasses from pale peat, composition of (BORNTRÄGER), A., i, 205 ; ii, 187.
See also Agricultural Chemistry.
Molecular attraction (MILLS), A., ii, 596.
complexity of acetic acid in chloroform solution (DAWSON), T., 521 ; P., **1902**, 69.
compounds, behaviour of, on dissolution (BODLÄNDER and FITTIG), A., ii, 248 ; (WUTH), A., ii, 594.
conductivity, specific, of sodium chloride solutions, temperature variations of the (LYLE and HOSKING), A., ii, 440.
fission produced by bromine (FOSSE), A., i, 449.
solution volume in relation to the rotation of ethyl tartrate in various solvents (PATTERSON), T., 1131 ; P., **1902**, 133.
structure and crystalline form, relation between (ZIRNGIEBL), A., ii, 496.
weight. See Weight, molecular.
Molybdenum alloys (STAVENHAGEN and SCHUCHARD), A., ii, 265.
Molybdenum boride (TUCKER and MOODY), T., 16 ; P., **1901**, 129.
oxide, compounds of, with hypophosphorous acid (MAWROW), A., ii, 25, 144.
lower oxides of, analysis of (FRIEDHEIM and HOFFMANN), A., ii, 265.
blue oxides of (BAILHACHE), A., ii, 144.
oxides (GUICHARD), A., ii, 265.
Molybdic acid, reduced by hydriodic acid, estimation of (GOOCH and PULMAN), A., ii, 230.
Silicomolybdates (ASCH), A., ii, 83.
Molybdenum, estimation and separation of :—
estimation of metallic (FRIEDHEIM and HOFFMANN), A., ii, 265.
estimation of, volumetrically, in molybdenum steel and ferromolybdenum (BRAKES), A., ii, 533.
estimation of, in steel (AUCHY), A., ii, 430.
separation of, from vanadium (TRUCHOT), A., ii, 478.
Molybdenum steel, estimation of, volumetrically (KOPP), A., ii, 430.
estimation of molybdenum in (BRAKES), A., ii, 533.
Monazite, occurrence of, in iron-ore and in graphite (DERBY), A., ii, 331.
Monazite sand, chemistry of (DROSSBACH), A., ii, 659.
from New Granada (BLUMAN), A., ii, 28.
estimation of thorium in (BENZ), A., ii, 431.
Monetite, artificial preparation of (DE SCHULTEN), A., ii, 89.
Montanic acid and its salts (v. BOYEN), A., i, 72.
Mooraboolite from the Moorabool valley, Victoria (PRITCHARD), A., ii, 612.
Mordants, dyeing with (LIEBERMANN), A., i, 475.
wool. See Wool.
Morphigenine. See 10-Hydroxyphenanthrene, 9-amino-.
Morphine, correlation of the constitution and physiological action of (VAHLEN), A., i, 727.
oxidation of (BOUGAULT), A., i, 638.
resistance of, to putrefaction (PANZER), A., ii, 295.
and strychnine, behaviour of, in putrefying corpses, and detection of, in urine (AUTENRIETH), A., ii, 368.
characteristic reaction of (FLEURY), A., ii, 186.
Reichard's "silver" method for the estimation of, in opium (SCHIDROWITZ), A., ii, 483.
Mortar, Abich's, new form of (IWANOFF), A., ii, 529.
Moulds, amino-acids as food material for (EMMERLING), A., ii, 521.
decomposition of butter fat by (LAXA), A., ii, 97.
See also Micro-organisms.
Mucilage of the prickly pear (HARLAY), A., ii, 685.
Mucin (MÜLLER), A., i, 195.
Mucobromic and **Mucochloric acids**, action of, on benzamidine (KUNCKELL and v. ZUMBUSCH), A., i, 835.

Mucoids (MÜLLER), A., i, 195.
in elastic tissue (RICHARDS and GIES), A., i, 410.
in tendon (CUTTER and GIES), A., i, 67.
reactions of various (MEAD and GIES), A., i, 409.
Muconic acid, synthesis of (DOEBNER), A., i, 343.
Mucor Rouxianus and a micrococcus, effect of, on potatoes (VUILLEMIN), A., ii, 343.
Muscle, action of alcohol on (LEE and SALANT), A., ii, 274, 675.
basic products from the hydrolysis of (ÉTARD), A., i, 699.
contact irritability of (ZOETHOUT), A., ii, 465.
of different classes of animals, proteids of (PRZIBRAM), A., ii, 339.
smooth, proteids of (VINCENT), A., ii, 340.
striated, effect of potassium and calcium ions on (ZOETHOUT), A., ii, 414.
"survival" respiration of (FLETCHER), A., ii, 613.
Muscovite from Haddam Neck, Connecticut (BOWMAN), A., ii, 408.
Muscular energy, conservation of, in an atmosphere of carbon dioxide (LHOTAK DE LHOTA), A., ii, 675.
work, influence of, on metabolism (KAUP), A., ii, 615.
Mushrooms. See Fungi.
Mussels, physiological action of decoction of (THIBERT), A., ii, 96.
Mustard oil, estimation of (ROESER), A., ii, 483.
Musts, estimation of fluorine in (WINDISCH), A., ii, 104.
Myrcene, and its polymeride from bay oil (HARRIES), A., i, 811.
Myricetin and its tetrabromo-derivative and pentamethyl ether and its acetyl compound, and hexaethyl ether (PERKIN), T., 203; P., **1902**, 11.
Myricitrin and its hydrolysis (PERKIN), T., 207; P., **1902**, 11.
Myrticolorin, identity of, with osyritrin and violaquercitrin (PERKIN), T., 477; P., **1901**, 88; **1902**, 58.

N.

Naphtha from Ferghana (CHARITSCHKOFF), A., ii, 509.
α-Naphthachromone and its **carboxylic acid** (v. KOSTANECKI and FROEMSDORFF), A., i, 303.
melting point of (HEYWANG and v. KOSTANECKI), A., i, 816.
Naphthacridine colouring matters (ULLMANN), A., i, 55, 56, 499, 500; (ULLMANN and MARIĆ), A., i, 183; (ULLMANN, RACOVITZA, and ROZENBAND; ULLMANN, ROZENBAND, MÜHLHAUSER, and GRETHER), A., i, 240.
derivatives (ULLMANN), A., i, 55, 119.
$\beta_1\beta_2\alpha_1'\beta_1'$-Naphthacridine, and the hydriodide of its 14-iodo-derivative (STROHBACH), A., i, 184.
Naphthacridines, **α-** and **β-**, and their salts, and the nitro-derivatives of the **α**-compound (SENIER and GOODWIN), T., 288; P., **1902**, 13.
Naphthacridone (STROHBACH), A., i, 183.
Naphthafluoflavines, *lin-*, and *lin-ang-*, and chloro- of the *lin-ang*-compound (HINSBERG), A., i, 239.
Naphthafurfurans, **α-** and **β-**, from coal tar (BOES), A., i, 554.
Naphthalaldehydic acid. See 8-Aldehydonaphthoic acid.
Naphthalene, synthesis of (ERLENMEYER and KUNLIN), A., i, 225.
formula of (MARSH), T., 963; P., **1902**, 165.
critical constants and molecular complexity of (GUYE and MALLET), A., ii, 195, 303.
electrolytic oxidation of (PANCHAUD DE BOTTENS), A., i, 752.
influence of, on the rotation of ethyl tartrate (PATTERSON), T., 1134; P., **1902**, 133.
1:8-derivatives of, formation of glyoxalines from (NÖLTING), A., i, 314.
Naphthalene, 2:6-*di*amino- (JACCHIA), A., i, 716.
nitro-derivatives, reduction products of (WACKER), A., i, 506.
1:8-*di*nitro-, condensation products from (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 363.
Naphthaleneazobenzenesulphone (DYBOWSKI and HANTZSCH), A., i, 249.
Naphthalene-2-azo-β-naphthol, 1-chloro- (MORGAN), T., 1381; P., **1902**, 185.
β-Naphthalenediazoaminotetrahydro-β-naphthalene (SMITH), T., 906; P., **1902**, 137.
Naphthalenediazonium hydroxides, bromo- and chloro-, interchange of halogen for hydroxyl in (ORTON), P., **1902**, 252.
Naphthalene-1:2-dicarboxylic acid, dihydroxy- and dibromodihydroxy-fluoresceins of (LIEBERMANN and WÖLBLING), A., i, 547.
Naphthalenedisulphonic acid, *di*amino- (JACCHIA), A., i, 716.

Naphthalene-8-sulphonic acid, 2:6-*di*amino-, and 2-chloro-6-nitro-, and its salts (JACCHIA), A., i, 716.

Naphthalenoid aminosulphonic acids, acetyl derivatives of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 445.

Naphthalenoid thiocarbamides containing hydroxyl groups (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 92.

Naphthalidodimethyl ketone and its oxime and phenylhydrazone (ZINK), A., i, 34.

α-Naphtha*iso*oxazine derivatives, synthesis of (BETTI), A., i, 57.

Naphthaphenazothionium picrates, α- and β- (KEHRMANN, GRESSLY, and MISSLIN), A., i, 568.

Naphtharonylacetic acid, ethyl ester, and amide (RUHEMANN), T., 425; P., **1902**, 46.

Naphthazarin and *iso*Naphthazarin (FRIEDLÄNDER and SILBERSTERN), A., i, 793.

β-Naphthazothionium picrate (KEHRMANN, GRESSLY, and MISSLIN), A., i, 569.

Naphthenes and their **carboxylic acids**, genesis of (ASCHAN), A., i, 749.

α-Naphthoic acid, synthesis of (ERLENMEYER and KUNLIN), A., i, 225.

3-Naphthoic acid, 2-chloro-, and its amide, chloride, and ethyl ester (STROHBACH), A., i, 149.

α-Naphthol, method of distinguishing, from β-naphthol (JORISSEN), A., ii, 536.

α-Naphthol, 8-amino-, and its hydrochloride, sulphate, and acetyl derivative (FRIEDLÄNDER and SILBERSTERN), A., i, 793.

4:5-*di*nitro-, and its methyl and ethyl ethers (ULLMANN and CONSONNO), A., i, 753.

β-Naphthol, condensation of, with dimethylaminobenzaldehyde (HEWITT, TURNER, and BRADLEY), T., 1207; P., **1902**, 181.

β-Naphthol, 6-amino- (JACCHIA), A., i, 716.

Naphthols, α- and β-, action of ethyl chlorofumarate on the sodium derivatives of (RUHEMANN), T., 422; P., **1902**, 45.

β-Naphtholsulphonic acid, 7-amino-, and its diazo-compound (CASSELLA & Co.), A., i, 718.

β-Naphthol-8-sulphonic acid, 6-amino-, and 6-nitro-, and its salts (JACCHIA), A., i, 717.

Naphtholsulphonic acids, thiocarbamides of (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 366.

1-β-Naphthoxyethylpiperidine and its salts (MARCKWALD and FROBENIUS), A., i, 24.

α-Naphthoxyfumaric acid, ethyl ester (RUHEMANN), T., 426; P., **1902**, 45.

β-Naphthoxyfumaric acid and its ethyl ester (RUHEMANN), T., 422; P., **1902**, 45.

α-Naphthylamine derivatives (FUSSGANGER), A., i, 279.

α-Naphthylamine, 5-bromo- and 8-chloro-, and their acetyl derivatives, and 4:8-*di*nitro- (ULLMANN and CONSONNO), A., i, 753.

α-Naphthyl-amine, -methylamine, and **-dimethylamine**, 4:5-*di*nitro- (ULLMANN and CONSONNO), A., i, 753.

β-Naphthylamine derivatives, preparation of (BADISCHE ANILIN- & SODA-FABRIK), A., i, 91.

β-Naphthylamine, 1-nitro-, action of nitrous acid on (MORGAN), T., 1381; P., **1902**, 185.

Naphthylamines, action of methylene diiodide on (SENIER and GOODWIN), T., 280; P., **1902**, 12.

β-Naphthylamine-8-sulphonic acid, 6-chloro- and 6-nitro-, and their salts (JACCHIA), A., i, 716.

8-Naphthylamino-3-naphthoic acid (STROHBACH), A., i, 183.

5-α-Naphthylamino-1-nitroanthraquinone (FARBENFABRIKEN VORM. F. BAYER & Co.) A., i, 382.

β-Naphthylarsenic compounds (MICHAELIS and BÜSCHLER), A., i, 416.

Naphthyldiguanides, α- and β-, and their salts (SMOLKA and HALLA), A., i, 323.

1-β-Naphthyl-2:3-dimethyl-2:5-thiopyrazole (MICHAELIS and BINDEWALD), A., i, 317.

1:8-Naphthylenediamine and its derivatives, condensation products of, with acetone (BADISCHE ANILIN- & SODA-FABRIK), A., i, 124.

β-Naphthylhydrazone, use of, for the detection and separation of the sugars (HILGER and ROTHENFUSSER), A., ii, 479.

α-Naphthyl-*s*-iodonitrophenyliodonium hydroxide and salts (WILLGERODT and ERNST), A., i, 18.

α-Naphthylmercury acetate (DIMROTH), A., i, 656; (PESCI), A., i, 849.

4-α-Naphthylsemithiocarbazide (BUSCH and ULMER), A., i, 575.

Naphthylsulphone-acetic acids, and **-ethyl alcohols**, α- and β- (TRÖGER and BUDDE), A., i, 776.

β-Naphthylthioantipyrine (MICHAELIS and BINDEWALD), A., i, 317.
Nataloe-emodin (LÉGER), A., i, 549.
Natroalunite from Colorado (HILLEBRAND and PENFIELD), A., ii, 667.
Natrojarosite from the Soda Spring Valley, Nevada (HILLEBRAND and PENFIELD), A., ii, 666.
"Natromètre" (DEMICHEL), A., ii, 530.
Natron-phlogopite (WEINSCHENK), A., ii, 569.
Natural water. See Water.
Neatsfoot oils, analytical constants of (GILL and ROWE), A., ii, 481.
Neodymium sulphate, crystalline form of (DUFET), A., ii, 326.
sulphates, acid and basic (MATIGNON), A., ii, 325.
Neon, atomic weight and classification of (WILDE), A., ii, 393.
Neotantalite, a new mineral (TERMIER), A., ii, 406.
Nepenthes, the proteolytic enzyme of (VINES), A., ii, 165.
Neroli oil (*orange blossom oil*) (JEANCARD and SATIE), A., i, 45.
sweet (THEULIER), A., i, 386.
Chinese (UMNEY and BENNETT), A., i, 811.
Nerve tissue, influence of lecithin on the development of (DESGREZ and ZAKY), A., ii, 465.
analysis of (BARBIERI), A., ii, 618.
Nerves, fatigue in (BRODIE and HALLIBURTON), A., ii, 416.
Neutralisation, studies on (BERTHELOT), A., i, 199.
Nickel alloy with magnesium, electrolytic preparation of (COEHN), A., ii, 660.
Nickel salts, conditions of equilibrium of deliquescent and hygroscopic (HARTLEY), A., ii, 197.
compounds of, with cupric oxide (MAILHE), A., ii, 140, 262.
as reagents for reducing sugars (DUYK), A., ii, 54.
Nickel carbonyl, chemical dynamics of (MITTASCH), A., ii, 307.
chloride, compound of, with iodine trichloride (WEINLAND and SCHLEGELMILCH), A., ii, 315.
ammonium chromate (BRIGGS), P., **1902**, 255.
potassium sulphate (MALLET), T., 1550; P., **1902**, 198.
sulphides, formation of (ANTONY and MAGRI), A., ii, 25.
Nickel, modification of Rose's method for the separation of, from cobalt (TAYLOR), A., ii, 476.
Nickel, separation of, from zinc (ROSENHEIM and HULDSCHINSKY), A., ii, 108.
Nicotianine from tobacco (FRÄNKEL and WOGRINZ), A., ii, 470.
Nicotine, amount of, in tobacco leaves at various periods of their growth (KISSLING), A., ii, 625.
detection of, by means of formaldehyde (SCHINDELMEISER), A., ii, 115.
Nicotinic acid (*pyridine-3-carboxylic acid*) 4-amino-, and its additive salts and methyl ester (KIRPAL), A., i, 564.
*iso***Nicotinic acid** (*pyridine-4-carboxylic acid*), ethyl ester, and its salts (PINNER, DONCHI, DREXLER, and BAY), A., i, 177.
ethylbetaine of (CAMPS), A., i, 824.
*iso***Nicotinic acid** (*pyridine-4-carboxylic acid*), 3-amino-, and its methyl ester and its hydrate and additive salts (GABRIEL and COLMAN), A., i, 841.
2:6-dithiol-, and its methyl ester and salts (BITTNER), A., i, 824.
Niobioxalic acid, alkali salts (RUSS), A., i, 586.
Nitration with ethyl nitrate (WISLICENUS and ENDRES), A., i, 541.
of ring compounds, influence of the solvent during the (SCHWALBE), A., i, 755.
and bromination in the aromatic series (BLANKSMA), A., i, 600.
Nitric acid and *per*oxide. See under Nitrogen.
Nitrides of the alkaline earths, formation and stability of (GAUTIER), A., ii, 453.
Nitrification. See Agricultural Chemistry.
Nitrile, $C_8H_{11}N$, from β-methylcyclopentanolacetic acid (WALLACH and SPERANSKI), A., i, 722.
$C_{12}H_{23}ON$, from methyl nonyl ketone and hydrogen cyanide (CARETTE), A., i, 346.
Nitriles, preparation of (BUCHERER), A., i, 533.
critical constants and molecular complexity of (GUYE and MALLET), A., ii, 243, 303.
as solvents in molecular weight determinations (KAHLENBERG), A., ii, 310.
*cycloiso***Nitriles** and their derivatives (SABANÉEFF, RAKOWSKY, and PROSIN), A., i, 604.
Nitriles. See also:—
Acetonitrile.
α-Acetoxy-γ-phenylbutyronitrile.
Adiponitrile (*butane*, αα'-*dicyano*-).
α-Anilinopyrotartaric acid nitrile.
β-Anilinotricarballylic acid nitrile.

Nitriles. See :—
Anthranilidoacetonitrile.
Benzidine*di*-*p*-chloromandelonitrile.
Benzonitrile.
Benzyl cyanide.
Benzylideneaminoacetonitrile.
o-Carboxyanilino-*α*-phenylacetonitrile.
Cinnamoylaminoacetonitrile.
Diacetonitrile.
Diethylaminoacetonitrile.
α-Diethylaminopropionitrile.
Dihydrofencholenonitrile.
2:4-Dihydroxybenzylidenemalononitrile.
p-Dimethylaminobenzylidenemalononitrile.
2-Ethoxybenzonitrile.
p-Ethoxybenzyl cyanide.
Hippuronitrile.
m-Hydroxybenzonitrile.
4-Hydroxydihydrofencholenonitrile.
Hydroxymethylsalicylonitrile.
Hydroxynitriles.
Hydroxytoluonitrile.
Isatomalononitrile.
Malononitrile.
Mandelonitrile.
Methylcamphoronitrile.
Methyleneaminoacetonitrile.
β-Methyl*cyclo*pentanemethylidenecarboxylonitrile.
Phenanthraquinone cyanides.
Phenanthryl cyanides.
Phenylacetonitrile.
γ-Phenylbutyronitrile.
α-Phenyl-*p*-chlorocinnamonitrile.
Phenylcrotononitrile.
p-Phenylene*di*amino*di*-*p*-chlorobenzyl cyanide.
Phenylhydantonitrile.
Pyridyl cyanides.
p-Toluidinomethylenebenzyl cyanide.
m-Toluonitrile.
Tri-*p*-anisylacetonitrile.
m-Xylidinomethylenebenzyl cyanide.

Nitroamino-alcohols (FRANCHIMONT and LUBLIN), A., i, 427.

Nitro-compounds, reducing action of some (VIGNON and GERIN), A., i, 9.
action of zinc ethyl on (LACHMAN), A., i, 198.
reduction of, by direct hydrogenation in contact with finely divided metals (SABATIER and SENDERENS), A., i, 701.
transformation of, into hydroxamic acids (ULPIANI and FERRETTI), A., i, 430.
aromatic, action of light on (CIAMICIAN and SILBER), A., i, 433.
reduction of, with tin and hydrochloric acid (PINNOW), A., i, 671.

Nitro-compounds, aromatic, reduction of, to amines (BOEHRINGER & SÖHNE), A., i, 715.
reactions of (MEISENHEIMER), A., i, 795.

*iso***Nitro-compounds.** See Nitronic acids.

Nitrogen, preparation of, from ammonium nitrate (MAI), A., ii, 69.
band spectra of (DESLANDRES), A., ii, 373.
stereochemistry of (WEDEKIND and OECHSLEN), A., i, 118.
specific volume of, at 78° (DEWAR), A., ii, 305.
liquid, variation with temperature of the surface energy and density of (BALY and DONNAN), T., 907 ; P., **1902**, 115.
asymmetric, new mode of isomerism of (WEDEKIND), A., i, 643.
quinquevalent, isomeric salts containing (KIPPING), P., **1902**, 209, 211.
importance of, in the synthesis of proteids in plants (CZAPEK), A., ii, 280.

Nitrogen bromides containing propionyl (CHATTAWAY), T., 814 ; P., **1902**, 113.
bromides and chlorides derived from ortho-substituted anilides (CHATTAWAY and WADMORE), T., 984 ; P., **1902**, 173.
chlorides containing propionyl (CHATTAWAY), T., 637 ; P., **1902**, 64.
substituted (ORTON), T., 497, 503 ; P., **1902**, 59, 73 ; (CHATTAWAY), P., **1902**, 165.
containing the azo-group (CHATTAWAY), T., 982 ; P., **1902**, 174.
probable new oxide of (HELBIG), A., ii, 654.
*per*oxide (tetr*oxide*), liquid, as a solvent (FRANKLAND and FARMER), P., **1902**, 47 ; (BRUNI), A., ii, 312.
oxides, direct hydrogenation of, by contact action (SABATIER and SENDERENS), A., ii, 605.

Nitrogen acids :—
Nitric acid, physical properties of solutions of (VELEY and MANLEY), A., ii, 135.
absorption spectra of (HARTLEY), T., 559 ; P., **1902**, 67, 239.
electrolytic reduction of, in presence of hydrochloric or sulphuric acid (TAFEL), A., ii, 559.
ionic and thermal coefficients of (VELEY and MANLEY), A., ii, 316.
reaction between, and hydrogen iodide (ECKSTÄDT), A., ii, 130.
chemical equilibrium in the reduction of, by means of nitric oxide (SAPOSCHNIKOFF), A., ii, 16.

Nitrogen acids:—
Nitric acid and hydrochloric acid, relative strength of (KÜHLING), A., ii, 79, 252; (SACKUR; BODLÄNDER), A., ii, 204; (BODLÄNDER and SACKUR), A., ii, 314.
behaviour of, towards brucine (LUNGE), A., ii, 288, 427; (WINKLER), A., ii, 353.
compounds of, with acetic and with propionic acids (PICTET and GENEQUAND), A., i, 584.
detection of, in presence of alkali ferri- and ferro-cyanides (LEUBA), A., ii, 583.
reaction of the phenolsulphonic reagent in the estimation, colorimetrically, of (MONTANARI), A., ii, 287.
estimation of, in water (WOY), A., ii, 694.
estimation of, colorimetrically, in water (NOLL), A., ii, 173.
estimation of, in water by the indigo-carmin method (TROTMAN and PETERS), A., ii, 535.
estimation of, in chlorinated waters (MARCILLE), A., ii, 173.
Nitrates, presence of, in milk as an indication of adulteration (GERBER and WIESKE), A., ii, 540.
effect of, on Bacteria (PAKES), A., ii, 97.
organic, constitution of (MARSHALL and WIGNER), P., **1902**, 32.
See also Agricultural Chemistry.
Nitrous acid, behaviour of, towards brucine (LUNGE), A., ii, 288, 427; (WINKLER), A., ii, 353.
estimation of, in sodium nitrite (SCHULTZ), A., ii, 473.
estimation of, gasometrically, in urine (GERLINGER), A., ii, 173.
Nitrogen, detection and estimation of:—
test for, in pyrrole compounds by Lassaigne's method (KEHRER), A., ii, 530.
comparative estimations of, by various methods (KELLNER), A., ii, 693.
estimation of (JEAN), A., ii, 172; (DURAND), A., ii, 224; (DAKIN), A., ii, 533.
apparatus for the estimation of (WESENER), A., ii, 426.
Kjeldahl's process for the estimation of (NEUBERG), A., ii, 426.
gaseous, estimation of, gravimetrically (LIDOFF), A., ii, 353.
estimation of, in farm-yard manure (PFEIFFER, LEMMERMANN, RIECKE, and BLOCH), A., ii, 423.
Nitrogen, estimation of:—
estimation of, in urine (NEUBERG; CAMERER), A., ii, 426.
estimations, new apparatus for use in distilling ammonia in (WILLIAMS), A., ii, 391.
organic, estimation of, in water (CAUSSE), A., ii, 584.
See also Agricultural Chemistry.
Nitrogen compounds, density of, in relation to constitution and composition (KANONNIKOFF), A., ii, 244.
Maxwell's law, $n^2 = K$ relating to (VAN AUBEL), A., ii, 373.
cyclic, heat of combustion of (ZUBOFF), A., i, 144.
substituted, displacement of benzyl by methyl in (JONES), P., **1901**, 205.
Nitrogenous compounds, separation of, from urine (DOMBROWSKI), A., ii, 633.
Nitrohydroxylaminic acid, reactions of (ANGELI), A., i, 78.
hydrolysis of (ANGELI, ANGELICO, and SCURTI), A., i, 765.
Nitro-ketones, cyclic (AUWERS), A., i, 217.
Nitrometer, new, for use with the Sprengel pump (ODDO), A., ii, 48.
Nitronic acids (*iso*-*nitro*-*compounds*), formation of (BAMBERGER and FREI), A., i, 404.
esters of (BAMBERGER), A., i, 246; (BAMBERGER and GROB), A., i, 247; (BAMBERGER and FREI), A., i, 248.
Nitroprussides, action of sulphites on (FAGES), A., ii, 472.
Nitrosates, reactions of (IPATIEFF and SOLONINA), A., i, 1.
Nitrosoamines, primary, isomerism of, with *anti*diazo-hydrates (HANTZSCH and POHL), A., i, 842.
Nitroso-compounds and bisnitroxyl compounds, connection between (PILOTY), A., i, 734.
action of zinc ethyl on (LACHMAN), A., i, 198.
aromatic, condensation products of, with methylene derivatives (SACHS), A., i, 118.
Nitrosulphuric acid, action of, on saturated hydrocarbons (MARKOWNIKOFF), A., i, 417.
Nitrosyl chloride, reactions of (IPATIEFF and SOLONINA), A., i, 1.
Nodules. See Agricultural Chemistry.
Nonadecane (MABERY), A., i, 733.
n-**Nonaldehyde** (SCHIMMEL & Co.), A., i, 345.
Nonanedicarboxylic acid. See *iso*Propyl*iso*butylsuccinic acid.
Nonanetricarboxylic acids. See αγ-Di*iso*propyltricarballylic acids.

Noninyl alcohol, *tri*chloro- (tri*chloro*-*methyl*-*β*-*heptinylcarbinol*) (Moureu and Desmots), A., i, 289.
Nonoic acid, ε-amino- (Wallach and Scheunert), A., i, 806.
Nonyl alcohol (*methylheptylcarbinol*) (Mannich), A., i, 592.
Nonyl [alcohol (*methyl*-n-*heptylcarbinol*) from oil of rue (Power and Lees), T., 1592; P., **1902**, 193.
β-Nonylamine (Mannich), A., i, 592.
β-Nonylene (Mannich), A., i, 592.
Nonylene (*γ*-*propyl*-*β*-*hexylene*, *δ*-*ethyl*-*γ*-*heptylene*), chloro-oxime, and nitrosate of (Ipatieff and Solonina), A., i, 2.
Norbrazilinic acid (Perkin), T., 1035.
Nor*iso***saccharic acid**, alkaloidal salts of (Neuberg and Wolff), A., i, 84.
Nucleo-histon (Bang), A., ii, 36.
salts, electrolysis of (Huiskamp), A., i, 332.
Nucleo-proteid of the suprarenal gland (Jones and Whipple), A., i, 731.
Nux vomica, estimation of brucine and strychnine in (Dowzard), P., **1902**, 220.

O.

Oatmeal, absorption of the nitrogen from, by the dog (Noël-Paton), A., ii, 336.
Oats, estimation of potassium in (Boes), A., ii, 474.
See also Agricultural Chemistry.
Oats-cocoa, analysis of (Peters), A., ii, 372.
Obituary notices:—
Sir Joseph Henry Gilbert, T., 625.
Henry George Madan, T., 628.
W. B. Randall, T., 629.
Saville Shaw, T., 630.
Maxwell Simpson, T., 631.
William Thomas Newton Spivey, T., 635.
Oceanic salt deposits, formation of (van't Hoff and Weigert), A., ii, 137; (van't Hoff, Meyerhoffer, and Cottrell), A., ii, 321; (van't Hoff and O'Farelly), A., ii, 461; (van't Hoff and Bruni), A., ii, 666.
Ochre, cupriferous, from New Jersey (Chester), A., ii, 611.
Ochrolechiasic acid (Hesse), A., i, 681.
Octacosane (Mabery), A., i, 734.
Octadecane, and chloro- (Mabery), A., i, 733.
*cyclo***Octa-Δ$^{1:5}$-diene** (Doebner), A., i, 598.
n-**Octaldehyde** (Schimmel & Co.), A., i 344.
Octaldehyde and its oxime (Bouveault and Wahl), A., i, 592.
2:4:2′:4′-Octamethyl*tetra*-**aminoditolyl-5:5′-methane** and its picrate (Morgan), T., 657; P., **1902**, 87.
Octane, *di*bromo- (Zelinsky), A., i, 593.
Octane (*di*-sec.*butyl*, *dimethyl*-*γδ*-*hexane*) (Norris and Green), A., i, 5.
Octanedicarboxylic acid. See α-Methyl-*δ*-*iso*propyladipic acid.
α-Octene-εη-dione (Leser), A., i, 262.
Octenyl alcohol (*methylheptenol*) (Wallach, Meyer, and Mittelstenscheid), A., i, 81.
Octopods, proteid absorption and digestion in (Cohnheim), A., ii, 572.
mechanism of intestinal absorption in (Cohnheim), A., ii, 572.
Octyl alcohol (*dibutyl alcohol*), synthesis of (Guerbet), A., i, 130.
constitution of (Guerbet), A., i, 335.
Octyl alcohol (*dimethylisoamylcarbinol*) (Konowaloff), A., i, 336.
Octyl alcohol (*methylethylbutylcarbinol*) (Konowaloff), A., i, 336.
Octylene, nitro- (Bouveault and Wahl), A., i, 592.
Octylene (*δ*-*methyl*-*γ*-*heptylene*, 1-*methylpropyl*-2-*ethylethylene*), compound of, with nitrosyl chloride, and nitrosate (Ipatieff and Solonina), A., i, 2.
Octylene glycol (Mousset), A., i, 254.
Octylene glycol (*βε*-*dimethylhexane*-*βε*-*diol*) (Zelinsky), A., i, 593.
Œnanthaldehyde. See Heptaldehyde.
Oils, determination of the solidifying point of (Shukoff), A., ii, 196.
proportion of liquid fatty acids in, and their iodine values (Lane), A., ii, 184.
temperature reaction of, with sulphuric acid (Sherman, Danziger, and Kohnstamm), A., ii, 436.
drying and fish, detection of in mixtures (Halphen), A., ii, 293.
fatty, relation of the heat of combustion to the specific gravity in (Sherman and Snell), A., ii, 435.
lubricating, test for the gumming quality of (Gill), A., ii, 481.
mineral. See Kerosene, Naphtha, Petroleum, Shale oil.
oxidised (Lewkowitsch), A., i, 528.
vegetable, constituents of (Schimmel & Co.), A., i, 550.
from the resin of *Dammara orientalis* (Tschirch and Koch), A., i, 479.
from various elemi (Tshirch and Cremer), A., i, 813.

Oils, vegetable, determination of the refractive index of (Utz), A., ii, 109.
refractive indices of—correction for temperature (Tolman and Munson), A., ii, 709.
action of superheated steam on (Klimont), A., i, 202.
estimation of methyl anthranilate in (Hesse and Zietschel), A., ii, 538.
estimation of, in spices, liqueurs, and soaps (Mann), A., ii, 432.
volatile, specific gravities and coefficients of expansion of (Schreiner and Downer), A., i, 108.
analysis of (Cutolo), A., ii, 184.
application of iodine bromide in the analysis of (Hanuš), A., ii, 112; (Jungclaussen), A., ii, 294.
comparison of the methods used to determine the iodine values of (Hunt), A., ii, 436.
Oils. See also :—
Arachis oil.
Asarum arifolium, oil of.
Asarum canadense, oil of.
Asparagus seeds, oil of.
Bay oil.
Calamus oil.
Cinnamon oil.
Cloves, oil of.
Cocoa butter (cocoanut oil).
Coffee, oil of.
Cottonseed oil.
Elderberry, red, oil of.
Eucalyptus oils.
Galanga oil.
Horse oils.
Jasmine blossoms, oil of.
Juniper, oil of.
Kaempferia Galanga, oil of.
Lemon oil.
Lindera Benzoin seeds, oil of.
Linseed oil.
Mentha Pulegium, oil of.
Milfoil, oil of.
Mustard oil.
Neatsfoot oil.
Neroli oil.
Olive oil.
Orange blossom, oil of.
Petit grain, oil of.
Polei, oil of.
Rue, oil of.
Sage, oil of.
Sandalwood oil.
Semen Coccognidii, oil of.
Sesamé oil.
Shale oil.
Tallow oils.
Turkey red oil.
Oils. See :—
Turpentine, oil of.
Walnut oil.
Ylang-ylang, oil of.
Olefine haloids, action of water and lead oxide on (Krassusky), A., i, 261.
Olefines, formation of aldehydes and ketones from (Krassusky), A., i, 261.
detection of, in light petroleum (Balbiano and Paolini), A., ii, 109.
See also Hydrocarbons.
Oleodistearin, occurrence of, in the fat of *Theobroma Cacao* seeds (Fritzweiler), A., ii, 470.
Olive oil, solid acids of (Holde), A., i, 257.
use of the Bechi test with (Tolman), A., ii, 436.
Olivin and **Olivoin**, Pagliari's (Spica), A., i, 346.
Onon, **Ononin**, **Ononetin**, **Onospin**, and **ψ-Onospin** (Hemmelmayr), A., i, 480.
Opianic acid, nitro-, action of acetone on (Book), A., i, 464.
Opianic chloride. See 2-Aldehydo-5:6-methoxybenzoyl chloride.
Opium, assay of (Stevens), A., ii, 711.
Reichard's "silver" method for the estimation of morphine in (Schidrowitz), A., ii, 483.
preparations, detection of (Bourquelot), A., ii, 483.
Opuntia vulgaris. See Prickly pear.
Orange blossom oil. See Neroli oil.
Orchid tubers. See Agricultural Chemistry.
Ores containing much arsenic, iron, and lead, decomposition of, with sulphuric acid (Nissenson and Crotogino), A., ii, 695.
Organic compounds, with open or closed chains, influence of the side chains on the properties of (Menschutkin), A., ii, 493.
matter, destruction of, in substances containing phosphorus, arsenic, and metals (Meillère), A., ii, 288.
estimation of, in drinking water (de Ridder), A., ii, 178.
vapour in the air (Henriet), A., i, 714.
Organism, action of lecithin on the (Desgrez and Zaky), A., ii, 575.
behaviour of stereo-isomerides in the (Neuberg and Wohlgemuth), A., ii, 336.
rôle of carbohydrates in the utilisation of insoluble salts by the (Vaudin), A., ii, 337.

Organism, utilisation of sugars by the (CHARRIN and BROCARD), A., ii, 216, 274.
decomposition of potassium iodide in the, by nitrites (STEPANOFF), A., ii, 620.
fate of sodium thiocyanate in the (POLLAK), A., ii, 616.
fate of uric acid, administered as such, in the (SOETBEER and IBRAHIM), A., ii, 337; (SALKOWSKI), A., ii, 616.
arsenic in the (CERNÝ), A., ii, 274.
synthesis of hippuric acid in the (BASHFORD and CRAMER), A., ii, 574.
correlated production of indoxyl and urea in the (GNEZDA), A., ii, 339.
pentoses in the (GRUND), A., ii, 415.
influence of certain poisons on the synthesis of phenolsulphuric acid in the (KATSUYAMA), A., ii, 161.
synthesis of proteid in the (LOEWI), A., ii, 273.
formation of ethereal sulphate in the (EMBDEN and GLAESSNER), A., ii, 158.
cyclic terpenes and camphor in the (FROMM and HILDEBRANDT), A., ii, 159; (FROMM and CLEMENS), A., ii, 341.
synthesis of uric acid in the (WIENER), A., ii, 338.

Organometallic compounds, new reactions of (BLAISE), A., i, 164, 357.
influence of the methyl groups on the toxicity of (LAFFONT), A., ii, 620.

Organometallic compounds. See also :—
Acetonyltri-*p*-tolylarsenic compounds.
Anisylarsenic compounds.
Benzeneazo-*p*-cresolmercury salts.
Benzeneazo-*o*-hydroxyphenolmercury salts.
o-Benzophenonemercury salts.
tert. Butylphenylarsenic compounds.
Cacodylic acid.
Carboxy-phenyl- and -tolyl-arsenic acids.
Chromicyanic acid.
Cobalticyanic acid.
Cobaltioxalic acid.
p-Cresolmercury hydroxide.
p-Cresolmercury salts.
ψ- and *p*-Cumylarsenic compounds.
Dicarboxyphenylarsenic acid.
Diethyl-arsini- and -arsino-benzoic acids.
Diethylenediaminechromium salts.
Dihydroxydiaquodipyridinechromium salts.
Dimethylaminophenylarsenic acid.

Organometallic compounds. See :—
p-Dimethylaminophenylmercury acetate.
Dimethylamino-*p*-tolylarsenic compounds.
Dimethylheptenol, mercuric compounds of.
Diphenylarsenic compounds.
Diphenyl-*p*-tolylarsenic compounds.
Ethylenediaminechromium salts.
Ferribenzoylacetic acid.
Ferricyanic acid.
Ferrioxalic acid.
Ferrisalicylic acid.
Ferrocyanic acid.
Glycero-arsenic acid.
Hexacarbaminochromic salts.
o-Hydroxymercurisalicylic acid.
Hydroxytriaquodipyridinechromium salts.
Mercuribenzoic acid.
Mercuricineol iodide.
p-Mercuriphenyltrimethylammonium iodide.
o-Mercuryphenol.
Methylarsenic acid.
Methylarsine.
β-Naphthylarsenic compounds.
α-Naphthylmercury acetate.
Niobioxalic acid.
Osmyloxalic acid.
Oxalouranous compounds.
p-Oxydiethylarsinibenzoic acid.
Phenacylmercury chloride.
Phenetylarsenic compounds.
o-Phenolmercury hydroxide.
p-Phenolmercury oxide.
Phenylarsenic acids.
Phenylarsine.
Phenyldi-ψ-cumylarsenic compounds.
Phenyldiethylarsenic compounds.
Phenyldi-*p*-tolylarsenic compounds.
Phenyldi-*m*-xylylarsenic compounds.
Phenylmercury salts.
Phenyl-*p*-tolylarsenic compounds.
Resorcinolmercury salts.
Terpineol mercuric compounds.
Tetra-aquodipyridinechromium salts.
oo-Tetramethyl*di*aminoarseno-*p*-toluene.
Tetraphenylarsenic compounds.
Thymolmercury salts.
Tolylarsenic compounds.
Tribenzyl*tri*aminotri-*p*-tolylarsine.
Tri-*tert.* butylphenylarsenic compounds.
Tri-ψ- and -*p*-cumylarsenic compounds.
Tri-*p*-ethylphenylarsenic compounds.
Trimesitylarsenic compounds.
Tri-α- and -β-naphthylarsenic compounds.
Triphenylarsenic compounds.
Triphenylphenacylarsenic compounds.

Organometallic compounds. See :—
Tri-*m*- and -*p*-tolylarsenic compounds
Tri-*p*-tolylphenacylarsenic compounds.
Tri-*m*- and -*p*-xylylarsenic compounds.
Xylylarsenic compounds.
Zinc *iso*butyloxide.
Zinc ethoxide.
Zinc ethyl.
Zinc methyl.
Organs, arsenic in the (GAUTIER ; BERTRAND), A., ii, 517.
Ornithine and its salts (SCHULZE and WINTERSTEIN), A., i, 231.
detection of (HERZOG), A., i, 486.
Orthoclase of Elba granite, composition of (MANASSE), A., ii, 90.
Orthoformic acid. See under Formic acid.
Orthoperiodic acid. See under Iodine.
Oscine platinichloride, action of, on tropine platinichloride (HESSE), A., i, 817.
Osmosis and **Osmotic pressure.** See Diffusion.
Osmyloxalic acid, potassium salt (VÈZES and WINTREBERT), A., i, 587.
Osseo-albumoid (HAWK and GIES), A., i, 408 ; ii, 518.
Osteomalacia, composition of urine in a case of (THOMAS), A., ii, 96.
Osyritrin, identity of, with violaquercitrin and myrticolorin (PERKIN), T., 477 ; P., **1901,** 88 ; **1902,** 58.
Oven, new drying (THOMS), A., ii, 170.
Oxalacetic acid and its phenylhydrazone, dissociation constants of (JONES and RICHARDSON), T., 1158 ; P., **1902,** 141.
phenylhydrazone and *p*-bromo-, decomposition of, in aqueous and acid solutions (JONES and RICHARDSON), T., 1140 ; P., **1902,** 140.
Oxalacetic acid, ethyl and methyl ethyl esters, copper derivatives of (WISLICENUS and ENDRES), A., i, 423.
Oxalic acid, formation of, by Bacteria (BANNING), A., ii, 469.
velocity of electrolytic decomposition of, in presence of sulphuric acid (ÅKERBERG), A., ii, 488.
action of, on potassium ferricyanide (MATUSCHEK), A., i, 357.
action of, on potassium ferrocyanide (MATUSCHEK), A., i, 272.
supposed use of, for the preparation of hydrogen peroxide (NICOLLE), A., ii, 56.
chromium derivatives of (ROSENHEIM and COHN), A., i, 74.
compounds of, with oxygen compounds (v. BAEYER and VILLIGER), A., i, 357.
Oxalic acid, detection and estimation of, in hydrogen peroxide (ROCHE), A., ii, 181.
and its estimation in urine (AUTENRIETH and BARTH), A., ii, 575.
Oxalic acid, double salts of cadmium and potassium, cadmium and ammonium, and mercury and potassium with (KOHLSCHÜTTER), A., i, 203.
barium salt and its hydrates, and barium hydrogen salt, solubility of (GROSCHUFF), A., ii, 7.
Oxalic acid, ethyl ester, specific heat and heat of vaporisation of (LUGININ), A., ii, 548.
action of sodamide on (TITHERLEY), T., 1529 ; P., **1902,** 187.
Oxalodihydroxamic acid (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1572.
ferric salt (HANTZSCH and DESCH), A., i, 709.
Oxalouranous compounds (KOHLSCHÜTTER), A., i, 11.
Oxal-*p*-toluidide, *di*thio- (SABANÉEFF, RAKOWSKY, and PROSIN), A., i, 604.
Oxaluric acids, formation of (BEHREND and GRÜNEWALD), A., i, 834.
Oxamphenylhydrazide (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1566 ; P., **1902,** 197.
Oxanilide, *m*-nitro- (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1569.
Oxanilphenylhydrazide and *o*-, *m*- and *p*-nitro- (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1567 ; P., **1902,** 197.
Oxanthranyl methyl ether (MEISENHEIMER), A., i, 796.
Oxazine colouring matter, $C_{26}H_{21}O_2N_2$, from nitroso-*m*-hydroxyphenyl-*p*-tolylamine and *m*-hydroxyphenyl-*p*-tolylamine (GNEHM and VEILLON), A., i, 287.
Oxazine colouring matters, constitution of, and their relation to azonium compounds (KEHRMANN), A., i, 566.
Oxazolidines, synthesis of (KNORR and MATTHES), A., i, 56.
Oxidation with mercuric acetate (BALBIANO and PAOLINI), A., i, 808.
induced (JOB), A., ii, 399.
Auto-oxidation of pyrogallol (HARRIES), A., i, 771.
Oxidation phenomena, apparatus for studying (TRILLAT), A., ii, 602.
Oxides, cyclic aromatic, separation of, from coal tar hydrocarbons (AKTIEN-GESELLSCHAFT FÜR THEER- & ERD-ÖL-INDUSTRIE), A., i, 714.

Oxidising agents, intensifying action of reducing agents, colloidal noble metals, alkaloids, and other basic substances on (SCHAER), A., ii, 140, 603.
Oxime, $C_9H_{17}O_3N$, from the acid $C_9H_{16}O_3$ (WALLACH), A., i, 801.
$C_{10}H_{15}O_3N_3$ from $C_{10}H_{14}O_3N_2$ (KLAGES), A., i, 497.
$C_{13}H_{17}O_2N$, from the aldol, $C_{13}H_{16}O_2$ (MICHEL and SPITZAUER), A., i, 292.
Oximes, electrolytic reduction of, in sulphuric acid (TAFEL and PFEFFERMANN), A., i, 598.
Oximes. See also :—
Acetoacetic acid, oxime of.
Acetonylnaphthalimidine, oxime of.
Acetophenoneoxime.
Acetyl-*m*-aminoacetophenone, oxime of.
p-Acetylethylbenzene, oxime of.
5-Acetyl-4-methylpyrazole-3-carboxylic acid, oxime of.
2-Acetyl-3-methylquinoxaline, oxime of.
4-Acetyl-2-phenyl-5-methylfurfuran, oxime of.
p-Acetyltetrahydrotoluene, oximes of.
Aldehydo*tri*chloroquino*di*chloride, oxime of.
Anhydrobrazilic acid, oxime of.
Aromadendral, oxime of.
Benzaldoxime.
Benzoyl-5-fluorenoneoxime.
Benzoylformoxime.
Benzoylpyridines, oximes of.
Benzylideneacetone, oxime of.
Benzylideneacetophenone, oxime of.
Benzylidenecamphoroxime.
γ-Benzylidene-ethyl methyl ketone, oxime of.
Benzylidenementhoneoximes.
Benzylidenemethyl ethyl ketone, oxime of.
Benzylidenemethyl *iso*propyl ketone, oxime of.
Benzylidenepropyl methyl ketone, oxime of.
α-Benzylmethyl ethyl ketone, oxime of.
Benzylmethyl*cyclo*hexanoneoxime.
Benzyl phenylethyl ketone, oxime of.
Brazilic acid, oxime of
*iso*Butaldehyde, oxime of.
Camphoroxime.
Diacetoneamino-oxime.
Diacetyl, oxime of.
γγ-Diacetylbutyric acid, ethyl ester, dioxime of.
ββ-Diacetyl-α-methylpropionic acid, dioxime of.
Diacetyl-β-naphthylhydrazoxime.
Diacetyl-*o*- and -*p*-tolylhydrazoximes.
Oximes. See :—
Dibenzyl methyl ketone, oxime of.
Di*iso*butyl ketone, oxime of.
Di-*n*- and -*iso*-butyryldioximes.
Diethyl diketoxime.
Digitogenic acid, oxime of.
Digitoic acid, oxime of.
Dihydropulegenoneoxime.
3:4-Dimethoxyhydratropaldehyde, oxime of.
m-Dimethylaminoacetophenone, oxime of.
Dimethylpyruvic acid, oximes of.
Dioxypinene, oxime of.
Dioxytariric acid, dioxime of.
Dipropionyldioxime.
o-Dipropoxydiphenyltetrahydropyrone, oxime of.
Di*iso*valeryldioxime.
4′-(or 5′-)Ethoxydeoxybenzoin-2′-carboxylic acid, oxime of.
Fluoreneoxalic acid, oxime of.
*iso*Hexaldehyde, oxime of.
Homofurfuraldoxime.
Homopiperonylaldehyde, oxime of.
p-Hydroxyacetophenoneoxime.
m-Hydroxybenzaldoxime.
α-Hydroxy-αα-dimethylacetonylacetone, dioxime of.
o-Hydroxylaminobenzaldoxime.
Hydroxymethylsalicylaldehyde, oxime of.
o-Hydroxyphenyl *p*-tolyl ketone, oxime of.
Ketohexyltetronic acid, ψ-oxime of.
3-Keto-1:2:2:5:5-pentamethylpyrrolidine, oxime of.
4-Keto-1-phenyl-3-methylpyrazolone, oxime of.
δ-Keto-β-*iso*propylhexoic acid, oxime of.
Ketotariric acid, oxime of.
Ketotrimethyldihydro*iso*oxazole, oxime of.
Ketoximes.
Menthoneoxime.
*iso*Mesitylnitrimine.
Mesityloxideoxime.
Mesoxamide, oxime of.
p-Methoxyhydratropaldehyde, oxime of.
p-Methoxyphenylacetaldoxime.
Methylheptenoneoxime.
Methyl*cyclo*hexenone, oxime of.
Methyl*cyclo*hexenonehydroxylamino-oxime.
Methylhexylpyruvic acid, ethyl ester, oxime of.
Methylhydrindoneoximes.
Methyl β-methylhexyl ketone, oxime of.

Oximes. See :—
Methylpyruvic acid, ethyl ester, oxime of.
Naphthalidodimethyl ketone, oxime of.
Octaldehyde, oxime of.
4-Phenacyl-3:5-dimethyl*iso*oxazole, oxime of.
Phenacylnaphthalimidine, oxime of.
Phenanthraquinoneoxime.
Phenol, *o*-nitroso-.
Phenylglyoxime.
Phenylhydrazoacetaldoxime.
Phenyl naphthalidomethyl ketone, oxime of.
Phenyl *n*-propyl ketoxime.
Phenyl tetrahydronaphthyl ketoximes.
Phenyl *p*-xylyl ketoxime.
*iso*Photosantonic acid, oxime of.
*iso*Photosantonolactone, oxime of.
p-Propionyl*iso*butoxybenzene, oxime of.
Propionylbutyryloximes.
4-*iso*Propyldihydroresorcin, dioxime of.
*iso*Propyllævulic acid, oxime of.
Pulegenoneoxime.
Pulenoneoximes.
Pyrindanedionecarboxylic acid, oxime of.
o-Quinoneoxime.
Tetrahydrocarvone*iso*oxime.
Tetrahydronaphthyl methyl ketone, oxime of.
Thujamenthoneketolactone, oxime of.
Thujone, oxime of.
*iso*Thujoneketolactone, oxime of.
p-Toluidino-*p*-toluquinoneoxime.
p-Tolylhydrazoacetaldoxime.
Trimethyl*cyclo*hexanoneoxime.
2:4:4-Trimethyl*cyclo*hexanoneoxime.
Trimethyl*cyclo*hexenoneoxime.
2:4:4-Trimethyl*cyclo*-Δ^2-hexenoneoxime.
Trimethyl*cyclo*pentanoneoximes.

Oximinocamphor, isomeric benzoyl derivatives from (FORSTER), P., **1902**, 238.

Oximinocinchomeronimidine and their salts (GABRIEL and COLMAN), A., i, 842.

Oximinocyanoacetic acid, esters, characterisation of, as pseudo-acids (MULLER), A., i, 354.

Oximinodipropyl ketone (PONZIO and BORELLI), A., i, 660.

Oximino-α-hydroxy-butyramide, -hexoamide, and **-octoamide** (SCHIFF), A., i, 430.

Oximino-ketones, formation of pyrrole derivatives from (KNORR and LANGE), A., i, 821.

α-Oximino-ketones, characteristic reaction of (WHITELEY), P., **1902**, 212.

Oximinolactamide and its benzoyl and *tri*chloro- derivatives (SCHIFF), A., i, 430.

Oximinomalondi-alkyl- and **-aryl-amides** and their salts (WHITELEY), P., **1902**, 212.

Oximinomalonic acid, amino-, and its copper salt (SCHIFF), A., i, 430.

Oximinomalon-*o*-tolylamic acid, ethyl ester (WHITELEY), P., **1902**, 212.

Oximino-oxalic acid, amino- (SCHIFF), A., i, 430.

α-Oximinovaleric acid, δ-cyano-, ethyl ester (FISCHER and WEIGERT), A., i, 352.

Oximino-. See also the Parent Substance, *iso*nitroso-.

Oxonium salts, constitution of (WERNER), A., i, 686.
theory (COEHN), A., i, 686.

Oxyamidines, preparation of (LEY), A., i, 445.

3-Oxyaminophenylphenazonium anhydride (KEHRMANN, BECKER, and CAPATINA), A., i, 571.

Oxyazo-compounds, constitution of (HEWITT and AULD), T., 171 ; P., **1901**, 264.

Oxycelluloses (NASTUKOFF), A., i, 13.

4-Oxycopazoline and its salts (GABRIEL and COLMAN), A., i, 841.

Oxycotarnine and its salts and bromo-derivative (FREUND and WULFF), A., i, 556.

Oxydases, nature of certain (KASTLE and LOEVENHART), A., i, 514.
phenolphthalin as a reagent for (KASTLE and SHEDD), A., i, 514.
qualitative reactions of (POZZI-ESCOT), A., ii, 635.
colorimetric estimation of (KASTLE and SHEDD), A., i, 514 ; (ALLIOT and POZZI-ESCOT), A., ii, 588.

***p*-Oxydiethylarsinibenzoic acid** and its salts (MICHAELIS and EPPENSTEIN), A., i, 413.

3-Oxy-5:6-diphenyl-1:2:4-triazine (POSNER), A., i, 82 ; (BILTZ and ARND), A., i, 245.

Oxyfulminic acid, potassium salt (FRANCESCONI and PARROZZANI), A., i, 139.

Oxygen, new method of preparing (JAUBERT), A., ii, 392.
evolution of, from the decomposition of potassium chlorate in presence of the oxides of manganese (SODEAU), T., 1066 ; P., **1902**, 136.
specific volume of, at its boiling point (DEWAR), A., ii, 304.

Oxygen, quadrivalency of (BROWNING), A., i, 208; (v. BAEYER and VILLIGER), A., i, 355.
quadrivalent, basic properties of (SACKUR), A., i, 384.
basic properties and quadrivalence of, in the xanthone series (FOSSE), A., i, 171.
basic properties of (WERNER), A., i, 50; (v. BAEYER and VILLIGER), A., i, 112, 355; (WALDEN), A., i, 169, 554; (WALKER), A., i, 170; (BREDIG), A., i, 230.
compressibility of, at low pressures (BATTELLI), A., ii, 244.
supposed anomalous behaviour of, at low pressure (THIESEN), A., ii, 13.
liquid, variation with temperature of the density and surface energy of (BALY and DONNAN), T., 907; P., **1902**, 115.
some cases of the wandering of, in the molecule (LUTZ), A., i, 596.
pseudocatalytic carrying of (ENGLER and WÖHLER), A., ii, 127.
heat developed by the action of, on alkaline pyrogallol (BERTHELOT), A., ii, 4.
union of hydrogen with (BAKER), T., 400; P., **1902**, 40.
and hydrogen, behaviour of, in presence of water (MARCACCI), A., ii, 392.
influence of breathing an atmosphere rich in (FALLOISE), A., ii, 149.
affinity of hæmoglobin for (HÜFNER), A., ii, 671.
estimation of, in blood (BARCROFT and HALDANE), A., ii, 424.
dissolved in water, estimation of, colorimetrically, and apparatus for (RAMSAY and HOMFRAY), A., ii, 171.
Oxygenated carbon compounds, structure of, on addition of aluminium haloids (KOHLER), A., i, 446.
Oxygen compounds, organic, compounds of, with ferrocyanic acid, oxalic acid and with phenols (v. BAEYER and VILLIGER), A., i, 356.
4-Oxy-2-methylcopazoline and its platinichloride (GABRIEL and COLMAN), A., i, 842.
Oxymethylpyridone and its **carboxylic acid**, amide, esters, and salts (FEIST), A., i, 489.
Oxymorphine (BOUGAULT), A., i, 638.
α-Oxy-β-phenyl-γ-benzylbutyrolactone, isomeric α-hydroxy-lactones from (ERLENMEYER), A., i, 543.
α-Oxy-γ-phenyl-β-benzylidene-butyrolactone, isomeric α-ketolactones from (ERLENMEYER), A., i, 543.
*allo***Oxyproteic acid** from urine (BONDZYŃSKI and PANEK), A., i, 847.
4:5-Oxy-1-*p*-tolyl-3:4-dimethyl-1:2:5-osotriazole (PONZIO), A., i, 191.
Ozone, production of (LADENBURG; CHASSY), A., ii, 67.
preparation of (ARNOLD and MENTZEL), A., ii, 352, 691.
formation of, by the electric discharge (DE HEMPTINNE), A., ii, 252.
influence of voltage on the formation of (CHASSY), A., ii, 486.
potential of (GRÄFENBERG), A., ii, 449.
spontaneous decomposition of (WARBURG), A., ii, 130.
action of, on potassium iodide solutions (GARZAROLLI-THURNLACKH), A., ii, 67.
tests for (ARNOLD and MENTZEL), A., ii, 352, 691; (CHLOPIN), A., ii, 582.
detection of small quantities of (EMICH), A., ii, 45.
Ozonic acid (v. BAEYER and VILLIGER), A., ii, 650.

P.

Palmitic acid from the oil of *Asarum canadense* (POWER and LEES), T., 61; P., **1901**, 210.
Palmitylazoimide (DELLSCHAFT), A., i, 142.
Palmitylhydrazide and its benzylidene, hydrindyl, propylidene and acyl derivatives (DELLSCHAFT), A., i, 142.
Pancreas, action of peptone and secretin on the (BAYLISS and STARLING), A., ii, 613; (HERZEN and RADZIKOWSKI), A., ii, 614.
relation between, and spleen (RETTGER), A., ii, 275.
mechanism of the so-called peripheral reflex secretion of the (BAYLISS and STARLING), A., ii, 275, 613.
excretion of sodium chloride after extirpation of the (LÉPINE and MALTET), A., ii, 616.
does the, contain an enzyme which resolves dextrose into alcohol and carbon dioxide? (HERZOG), A., ii, 336.
Papain, action of, on albumoses and caseoses (KURAÉEFF), A., i, 31.
Papaveric acid and its esters, and their conductivity (WEGSCHEIDER), A., i, 618, 619.
Papayotin, fission of albumin by (EMMERLING), A., i, 407, 408.
Papermaking, estimation of the pentosans in the materials used for (KRÖBER and RIMBACH), A., ii, 537.
Paracopaivic acid (TSCHIRCH and KETO) A., i, 167.

Paraffins, dielectric constant of (HORMELL), A., ii, 118.
method for calculating possible isomerides of (LOSANITSCH), A., i, 253.
Paraffins, nitro-, transformation of (BAMBERGER and RÜST), A., i, 197.
Paraldehyde. See under Aldehyde.
Paraldol and viscid **Acetaldol** (NOWAK), A., i, 260.
Parasarone. See under Asarone.
Paris-blue (MATUSCHEK), A., i, 272.
Parthenogenesis, artificial (HUNTER), A., ii, 32; (LOEB, FISCHER, and NEILSON; GREELEY), A., ii, 151.
in Annelids (FISCHER), A., ii, 621.
Partition coefficients. See Affinity.
Peas. See Agricultural Chemistry.
Peat, pale, composition of molasses from (BORNTRÄGER), A., i, 205; ii, 187.
pale, and dark, rapid technical analysis of (BORNTRÄGER), A., ii, 187.
Peat soil. See Agricultural Chemistry.
Pectinase (LEPOUTRE), A., ii, 467.
Pectolite from San Francisco (EAKLE and SCHALLER), A., ii, 213.
Penicillium brevicaule. See Arsenic mould.
Pentacosane (MABERY), A., i, 734.
Pentadecane and *di*chloro- (MABERY), A., i, 733.
Pentaerythritol, *tetra*nitro- (VIGNON and GERIN), A., i, 9.
Pentamethylbenzene, action of bromine on (v. KÓRCZYNSKI), A., i, 274.
1:2:2:5:5-Pentamethylpyrrolidine, and its acetyl derivative, phenylthiocarbamide, and thiocarbamates (PAULY), A., i, 559.
Pentane, β-bromo-β-nitroso-, constitution of (PILOTY and STOCK), A., i, 735.
*iso***Pentane**, action of nitric acid on (PONI), A., i, 581.
carbon monoxide, and hydrogen, fractional combustion of (CHARITSCHKOFF), A., ii, 702.
*iso***Pentane**, isomeric *tri*bromo-, action of ethyl sodiomalonate on (IPATIEFF and SWIDERSKI), A., i, 132.
bromonitro-, and chloronitro- (MOUSSET), A., i, 254.
prim.-nitro-, action of aldehydes, of sodium and halogens, of reducing agents, and of piperidylmethyl alcohol on (MOUSSET), A., i, 254.
Pentanedicarboxylic acids. See :—
Dimethylglutaric acids.
Pimelic acid (*isopropylsuccinic acid*).
Trimethylsuccinic acid.
*cyclo***Pentanemethylidencarboxylic acid**, and its ethyl ester, amide and dibromide (SPERANSKI), A., i, 341.
*iso***Pentanesulphonic** chloride, amide, and anilide (DUGUET), A., i, 428.
Pentane-αβδε-tetra- and **-aaγγεε-** and **-αββδδε-hexa-carboxylic acids** (GUTHZEIT and ENGELMANN), A., i, 743.
Pentanetricarballylic acids. See :—
αβ-Dimethylpropanetricarboxylic acid.
Dimethyltricarballylic acids.
Pentane-αγδ-tricarboxylic acids. See Hæmotricarboxylic acids.
Pentanetriolone and its osazone and phenylbenzylhydrazone (RUFF, MEUSSER, and FRANZ), A., i, 591.
*cyclo***Pentanolacetic acid**, ethyl ester (SPERANSKI), A., i, 341; (WALLACH and SPERANSKI), A., i, 722, 800.
βγ-**Pentanolamines**. See Amyl alcohols (*diethylcarbinol*, and *methylpropylcarbinol*), amino-.
*cyclo***Pentanone**, compound of, with benzylideneacetophenone (STOBBE), A., i, 472.
condensation of, with ethyl bromoacetate (SPERANSKI), A., i, 341.
Pentenedicarboxylic acids. See :—
aa-Dimethylglutaconic acid.
α-Ethylideneglutaric acid.
Δ²-*cyclo***Pentene-1-one-2-ol**. See 1:2-Diketopentamethylene.
Pentenetetracarboxylic acid. See :—
Ethylcarboxyaconitic acid.
Pentenoic acid (*angelic acid*), lactones of (THIELE, TISCHBEIN, and LOSSOW), A., i, 155.
Pentenoic acid (*dimethylacrylic acid*), amino-, ethyl ester, action of dilute mineral acids (BOUVEAULT and WAHL), A., i, 137.
Pentinene (*piperylene*), constitution of (THIELE), A., i, 145.
Pentosans, physiological importance of (KÖNIG and REINHARDT), A., ii, 273.
estimation of (KRÖBER and RIMBACH), A., ii, 537.
estimation of, in the materials used for papermaking (KRÖBER and RIMBACH), A., ii, 537.
Pentose, detection of, in urine (BIAL; KRAFT), A., ii, 703.
pancreas-proteid-, constitution of (NEUBERG), A., ii, 417.
Pentoses in the organism (GRUND), A., ii, 415.
formation of lactic acid from (KATSUYAMA), A., i, 257.
estimation of (KRÖBER and RIMBACH), A., ii, 537.
Pepper, estimation of furfuraldehyde in (HILGER), A., ii, 185.
Pepsin (PEKELHARING), A., i, 411.
chemical nature of (FRIEDENTHAL and MIYAMOTA), A., i, 655.

Pepsin, estimation of, in gastric juice (MEUNIER), A., ii, 236.
Pepsinic acid (PEKELHARING), A., i, 411.
Peptase (BOKORNY), A., ii, 419.
Peptic activity, method of observing (SPRIGGS), A., i, 410.
Peptone in the urine (ITO), A., ii, 160.
action of, on the pancreas (HERZEN and RADZIKOWSKI), A., ii, 614.
detection of, in urine (ČERNY), A., ii, 116.
Witte's, dissociation and combination of (SOLLMANN), A., i, 512.
combination of, with formaldehyde (SOLLMANN), A., i, 579.
Perboric acid. See under Boron.
Perchloric acid. See under Chlorine.
Peridotite, altered, in Mysore (HOLLAND), A., ii, 147.
Period of induction in the reaction between chlorine and hydrogen (MELLOR), T., 1292; P., **1902**, 170.
Periodic acid. See Iodic acid.
Periodic classification of the elements (BILTZ), A., ii, 201.
law, mathematical expression of the (HARRIS), A., ii, 65.
doubtful points in the application of the (TARUGI and CHECCHI), A., i, 203.
system and the properties of inorganic compounds (LOCKE), A., ii, 497.
table, mathematical expression of the valency law of the (MARTIN), A., ii, 649.
Peripheral reflex secretion of the pancreas, mechanism of the so-called (BAYLISS and STARLING), A., ii, 275, 613.
Peroxides, function of, in cell-life (CHODAT and BACH), A., ii, 344; (BACH and CHODAT; LOEW), A., ii, 522.
*iso***Persulphocyanic acid**. See under Cyanic acid.
Persulphuric acids. See Caro's acid and under Sulphur.
Pertungstic acid. See under Tungstic acid.
Pervanadic acid. See under Vanadic acid.
Petit grain, oil of (JEANCARD and SATIE), A., i, 45.
Petroleum, use of the peroxide calorimeter for (PARR), A., ii, 432.
Beaumont, occurrence of free sulphur in (RICHARDSON and WALLACE), A., ii, 327.
Galician (ZALOZIECKI and FRASCH), A., i, 197.
Petroleum, Italian (BALBIANO and PALLADINI), A., ii, 567.
Pennsylvania, hydrocarbons boiling above 216° in (MABERY), A., i, 733.
detection of olefines in light (BALBIANO and PAOLINI), A., ii, 109.
Petroleums, synthesis of, and theory of the formation of (SABATIER and SENDERENS), A., i, 581.
specific heat of (MABERY and GOLDSTEIN), A., ii, 549.
Phanerogamic parasites. See Agricultural Chemistry.
Phanerogams, sucrose in the food reserves of (BOURQUELOT), A., ii, 420.
Phase rule and **Phases**. See Equilibrium.
Phellandrene nitrites, reduction of (WALLACH and BÖCKER), A., i, 725.
Phellandrenolglycuronic acid (FROMM and HILDEBRANDT), A., ii, 159.
Phellandrium aquaticum, carbohydrates in the seeds of (CHAMPENOIS), A., ii, 282.
ω-Phenacetyl-2:4-diethoxyacetophenone (HANNACH and v. KOSTANECKI), A., i, 304.
4-Phenacyl-3:5-dimethyl-carboxylamide and **-*iso*oxazole** and its oxime (MARCH), A., i, 484.
Phenacylmercury chloride (DIMROTH), A.; i, 851.
Phenacylnaphthalimidine and its isomeride and oxime (ZINK), A., i, 34.
4-Phenacyl-1-phenyl-3:5-dimethylpyrazole (MARCH), A., i, 484.
Phenanthramides, 3- and 10- (WERNER), A., i, 440.
Phenanthraquinol. See 9:10-Dihydroxyphenanthrene.
Phenanthraquinone cyanides, 2- and 3- (WERNER), A., i, 441.
nitrate and sulphate (KEHRMANN and MATTISSON), A., i, 229.
Phenanthraquinone, amino-derivatives (WERNER), A., i, 440.
bromo- (WERNER), A., i, 629.
nitro-derivatives (WERNER), A., i, 440; (SCHMIDT and KÄMPF), A., i, 797.
Phenanthraquinonecarboxylic acids, 2- and 3- (WERNER), A., i, 441.
Phenanthraquinoneoxime, benzoyl derivative, compound of, with phenylcarbimide, and methyl ether anhydride (PSCHORR and BRÜGGEMANN), A., i, 684.
3-nitro- (SCHMIDT and KÄMPF), A., i, 797.
3-Phenanthraquinonesulphonic acid, its salts and methyl ester (WERNER), A., i, 441.

Phenanthrazoxonium chloride and ethyl ψ-oxide (KEHRMANN and HERRMANN), A., i, 568.

Phenanthrene (WERNER), A., i, 437, 626.

Phenanthrene, 2- and 10-amino-, and their benzoyl, phenylcarbamide, and urethane derivatives (WERNER), A., i, 440.

3-amino- and its isomeride and their acetyl derivative (WERNER), A., i, 440.

3-amino- and 3-nitro- (SCHMIDT), A., i, 29.

9-amino-, and 9:10-*di*amino-, and its diacetyl derivative (PSCHORR and SCHRÖTER), A., i, 672.

Phenanthrene-9-carboxylic acid and its ethyl ester, azoimide and hydrazide (PSCHORR and SCHRÖTER), A., i, 672.

Phenanthrenesulphonic acids, 2-, 3-, and 10-, and their methyl esters, salts, chlorides and anilides (WERNER), A., i, 437.

Phenanthridine methiodide, action of alkalis on (PICTET and PATRY), A., i, 644.

Phenanthroic acids, 2-, 3- and 10- (WERNER), A., i, 440.

2-Phenanthrol (PSCHORR and KLEIN), A., i, 97.

3-Phenanthrol, amino-, and its ethers and acetyl derivatives, and nitro-, methyl ether of (WERNER), A., i, 438.

Phenanthrols, 2-, 3-, and 10-, and their acetates, benzoates, and ethers (WERNER), A., i, 438.

Phenanthrolazobenzenesulphonic acids, 2- and 3- (WERNER), A., i, 438.

3-Phenanthrolquinone (PSCHORR and KLEIN), A., i, 97.

3-Phenanthroxyacetic acid (WERNER), A., i, 438.

Phenanthryl cyanides, 2-, 3-, and 10- (WERNER), A., i, 440.

2-Phenanthryl methyl and **ethyl ethers** (WERNER), A., i, 628.

Phenanthrylamines. See Phenanthrene, amino-derivatives.

3-Phenanthryl-phenylcarbamide and **-urethane** (SCHMIDT), A., i, 29.

Phenazone and its methiodide and ethiodide (WOHLFAHRT), A., i, 509.

Phenazothione (KEHRMANN and DENGUIN), A., i, 569.

Phenazothionium salts (KEHRMANN and VESELÝ), A., i, 186; (AKTIENGESELLSCHAFT FÜR ANILIN-FABRIKATION), A., i, 496.

anhydro-3-sulphanilate (KEHRMANN and VESELÝ), A., i 568.

Phenazoxone (KEHRMANN and SAAGER), A., i, 235.

Phenazoxone, 3:5-*di*amino-, and its diacetyl derivative (KEHRMANN and THOMAS), A., i, 567.

Phenetidine and its homologues, compounds of, with ethyl orthoformate (GOLDSCHMIDT), A., i, 785.

Phenetole, critical constants and molecular complexity of (GUYE and MALLET), A., ii, 243, 303.

Phenetylarsenic compounds (MICHAELIS and HILBENZ), A., i, 413.

p-**Phenetyl-ψ-thiohydantoins**, and the acetyl derivative of the labile form and *p*-**phenetylthiohydantoic acid** (WHEELER and JOHNSON), A., i, 760.

Pheno-α-amino*cyclo*heptane, resolution of, into its optical isomerides; salts of and its benzoyl derivative (KIPPING and HUNTER), T., 574; P., **1902**, 60.

Phenofluorindine (*homofluorindine*) (NIETZKI and SLABOSZEWICZ), A., i, 126.

Phenol, $C_9H_{12}O_2$, from the oil of *Asarum canadense* (POWER and LEES), T., 60; P., **1901**, 210.

$C_{10}H_{14}O_2$, from phellandrenolglycuronic acid (FROMM and HILDEBRANDT), A., ii, 159.

Phenol, absorption spectra of (HARTLEY, DOBBIE, and LAUDER), T., 933; P., **1902**, 172.

vapour pressure in the system, acetone, water, and (SCHREINEMAKERS), A., ii, 243, 380, 599.

and indoxyl, formation of, as intermediate metabolic products, and their relation to glycuronic acid excretion (LEWIN), A., ii, 272; (MAYER), A., ii, 520.

bromide, *tri*bromo- (di*bromobenzene ketodibromide*) (LEWIS), T., 1001; P., **1902**, 177; (KASTLE, LOEVENHART, SPEYER, and GILBERT), A., i, 211.

bromides, derivatives of (ANSELMINO), A., i, 215.

Phenol, *o*-amino-, oxidation products of (DIEPOLDER), A., i, 830.

3-bromo- and 3-chloro-2:4:6-*tri*nitro- (TIJMSTRA), A., i, 717.

*penta*chloro-, oxidation of and transformation of, into tetrachloroquinone (BARRAL), A., i, 367.

3:6-*di*iodo-, and its acetate (BRENANS), A., i, 673.

2:6-*di*- and 2:4:6-*tri*-iodo-, and their ethers, and 2-*mono*- and 2:6-*di*-iodo-4-nitro- and their ethers and acetates (BRENANS), A., i, 280.

Phenol, *p*-nitro-, action of formaldehyde on (BORSCHE), A., i, 836.
2:4-*di*nitro-, compound of, with 4:4′-tetramethyl*di*aminodiphenylmethane (LEMOULT), A., i, 751.
*tri*nitro-. See Picric acid.
2:3:4:6-*tetra*- and *penta*-nitro- (BLANKSMA), A., i, 442.
4:6-*di*nitro-2-cyano-, and its derivatives (BLANKSMA), A., i, 281.
o-nitroso-, and its salts (v. BAEYER and KNORR), A., i, 766.
thio-. See Phenyl mercaptan.
Phenol compounds, bromo-, action of nitric acid on (ROBERTSON), T., 1475; P., **1902**, 189.
ethers, unsaturated, synthesis of (KLAGES), A., i, 609.
sulphurous esters (BADISCHE ANILIN- & SODA-FABRIK), A., i, 366.
Phenols from shale oil (GRAY), A., i, 605.
action of bromine and chlorine on (ZINCKE), A., i, 282; (ZINCKE and WIEDERHOLD), A., i, 282, 284; (ZINCKE and TRIPP), A., i, 285; (ZINCKE, SIEBERT, and REINBACH), A., i, 605.
action of chloroform on (AUWERS and WINTERNITZ), A., i, 218.
quantitative esterification and estimation of (VERLEY and BÖLSING), A., ii, 54.
condensation of, with esters of unsaturated acids (RUHEMANN), T., 419; P., **1902**, 45.
compounds of, with organic oxygen compounds, and with pyridine and quinoline (v. BAEYER and VILLIGER), A., i, 356.
compounds of, with sodium tetra-azoditolylsulphonate (SEYEWETZ and BIOT), A., i, 509.
iodine derivatives of (RICHARD), A., i, 280.
ψ-Phenols (AUWERS), A., i, 146; (AUWERS, SCHUMANN, and BROICHER), A., i, 147; (STEPHANI; POLLAK and SOLOMONICA), A., i, 148.
from salicylaldehyde and salicylic acid (AUWERS and HUBER), A., i, 213.
ψ-Phenols, halogenated, constitution of oxidation products from (AUWERS and SIGEL), A., i, 216.
Phenols, list of. See Alcohols and Phenols.
β-Phenolgalactoside and its tetra-acetyl derivative (FISCHER and ARMSTRONG), A., i, 263.
Phenolglycuronic acid, formation of, in the liver (EMBDEN), A., ii, 677.
o-**Phenolmercury** hydroxide, internal anhydride of (DIMROTH), A., i, 849.
p-**Phenolmercury** oxide (DIMROTH), A., i, 849.
Phenolphthalein, titration with, in alcoholic solution (HIRSCH), A., ii, 690.
Phenolphthalein anhydride. See Fluoran.
Phenolphthalin as a reagent for oxydases (KASTLE and SHEDD), A., i, 514.
Phenol-6-sulphonic acid, 4-nitro-2-amino-, and its salts and diazo-compound (BADISCHE ANILIN- & SODA-FABRIK), A., i, 282.
Phenolsulphuric acid, influence of certain poisons on the synthesis of, in the organism (KATSUYAMA), A., ii, 161.
Phenonaphthacridine, and amino- and its acetyl derivative (ULLMANN), A., i, 119.
1:2-Phenonaphthacridine, synthesis of (ULLMANN and BAEZNER), A., i, 694.
Pheno-α-naphthaxanthhydrol salts (WERNER), A., i, 50.
Phenonaphthazothione (KEHRMANN and DENGUIN), A., i, 569.
Phenoquinone, *hexa*bromo- (KASTLE, LOEVENHART, SPEYER, and GILBERT), A., i, 212.
Phenoxazine, $C_{12}H_{10}O_3N_2$, and its acetyl derivative, from the oxidation of 2-amino-3-methoxyphenol (HENRICH and RHODIUS), A., i, 448.
Phenoxazines, *di*nitro-, formation of (CROCKER), A., i, 566.
Phenoxozone, *di*nitro- and *di*amino- and its acyl derivatives (HILLYER), A., i, 50.
ε-Phenoxyamylphthalimide (MANASSE), A., i, 351.
2-Phenoxy-4:6-dimethylpyrimidine and its compound with mercuric chloride (ANGERSTEIN), A., i, 123.
Phenoxydiphenylarsine bromide and chloride (MICHAELIS and WEBER), A., i, 515.
Phenyl ethers, *o*- and *p*-amino- (HAEUSSERMANN and SCHMIDT), A., i, 126.
mercaptan, 4-bromo-2-nitro-, 4-chloro-2-nitro-, and *o*-nitro- (BLANKSMA), A., i, 281.
methyl selenide (POPE and NEVILLE), T., 1553; P., **1902**, 198.
o-, *m*-, and *p*-tolyl ethers, *o*-nitro-, and their **sulphonic acids** and their salts, and the *o*-amino-derivatives of the *o*- and *m*-ethers (COOK), A., i, 92.
Phenylacetic acid, synthesis of, as a lecture experiment (ZELINSKY), A., i, 675.
azoimide and hydrazide of (BOETZELEN), A., i, 58.

Phenylacetic acid, chloromethyl ester (DESCUDÉ), A., i, 339.
ethyl ester, action of sodium benzamide on (TITHERLEY), T., 1531; P., **1902**, 187.
Phenylacetic acid, amide, and nitrile, *p*-chloro-, compounds of with aromatic amines (v. WALTHER and RAETZE), A., i, 466.
*iso*nitro-, ethyl sodium salt (WISLICENUS and ENDRES), A., i, 541.
Phenylacetic-benzoic acid, methylene ester (DESCUDÉ), A., i, 339.
N-**Phenylacetimino-ethyl ether** hydrochloride (LANDER), T., 597; P., **1902**, 73.
Phenylacetone. See Benzyl methyl ketone.
Phenylacetonitrile (*benzyl cyanide*), *iso*nitro-, and its salts (WISLICENUS and ENDRES), A., i, 541.
Phenylacetylacetophenone, condensation of, with resorcinol (BÜLOW and GROTOWSKY), A., i, 484.
Phenylacetyl-*o*-aminoacetophenone (CAMPS), A., i, 178.
Phenylacetylene, action of alkyl diazoacetates on (BUCHNER and LEHMANN), A., i, 236.
Phenylacetylene-methyl- and **-*tri*chloromethyl-carbinol** (MOUREU and DESMOTS), A., i, 289.
Phenyl acetyl nitrogen chloride, chlorobromonitro- and bromonitro-derivatives of (ORTON), T., 497, 503; P., **1902**, 59, 73.
Phenylacridine methiodide and its diiodide (DECKER, HOCK, and DJIWONSKY), A., i, 830.
β-Phenylacrylic acid. See Cinnamic acid.
Phenylalanine, separation of, from amino-acids (SCHULZE and WINTERSTEIN), A., i, 613.
5-Phenyl-2-mono- and **-di-alkyl-amino-3-methylphenonaphthacridines**, and their dihydro-compounds and salts (ULLMANN, ROZENBAND, MÜHLHAUSER, and GRETHER), A., i, 241.
5-Phenyl-2-mono- and **-di-alkylamino-phenonaphthacridines** and their dihydro-compounds and salts (ULLMANN, ROZENBAND, MÜHLHAUSER, and GRETHER), A., i, 241.
Phenylallophanic acid, *m*- and *p*-nitro-, ethyl esters (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1569.
Phenylamino-. See Anilino-.
Phenyl*di*aminophenazine, amino- (NIETZKI and SLABOSZEWICZ), A., i, 126.
β-Phenyl-β-amylene (KLAGES), A., i, 668.
Phenyl-*p*-*iso*amylphenyliodonium salts (WILLGERODT and DAMMANN), A., i, 19.
4-Phenyl-5-aniltriazolone 3-disulphide, and **-3-thiol** and its ethers and potassium salt (BUSCH and ULMER), A., i, 575.
Phenyl-arsenious and **-arsenic acids**, esters (MICHAELIS and FROMM), A., i, 411.
Phenylarsine (PALMER and DEHN), A., i, 87.
Phenylauramine and its hydriodide and methiodides (GRAEBE), A., i, 683.
2-Phenyl-ψ-aziminobenzene, derivatives of (ROSENSTIEHL and SUAIS), A., i, 406.
Phenylazoacetaldoxime, alkylation of (BAMBERGER and FREI), A., i, 324.
and its chloro-, benzoyl and phenylcarbamide derivatives (BAMBERGER), A., i, 246, 321, 577; (BAMBERGER and GROB), A., i, 247; (BAMBERGER and FREI), A., i, 248; (VOSWINCKEL), A., i, 321.
and its *p*-chloro-, acetyl and picryl derivatives, constitution of (VOSWINCKEL), A., i, 844.
Phenylazoacetoacetic acid, ethyl ester, action of diazobenzene on (BAMBERGER and WHEELWRIGHT), A., i, 406.
Phenylazoacetylacetone and its nitro-derivatives (BÜLOW and SCHLOTTERBECK), A., i, 649.
Phenylazoacetyl-*p*-nitrobenzoylacetic acid, ethyl ester (BÜLOW and HAILER), A., i, 327.
Phenyl-azo- and **-hydrazo-alkylaldoximes** (BAMBERGER and FREI), A., i, 404.
Phenylazo-amino- and **-methylamino-crotonic acids**, ethyl esters (PRAGER), A., i, 64, 578.
Phenylazobenzoyl-*p*-nitrobenzoylacetic acid, ethyl ester (BÜLOW and HAILER), A., i, 327.
Phenylazodibenzoylacetic acid, ethyl ester (BÜLOW and HAILER), A., i, 327.
Phenylazo-1:2-diketopentamethylene (DIECKMANN), A., i, 787.
Phenylazodioxydiazinecarboxylic acid, ethyl ester, synthesis of (JOVITSCHITSCH), A., i, 202.
Phenylazoethylidenenitronic acid, methyl ester and its chloro-derivatives (BAMBERGER), A., i, 246; (BAMBERGER and GROB), A., i, 247; (BAMBERGER and FREI), A., i, 248.
Phenylazo-*m*-nitrobenzoylacetic acid, ethyl ester (BÜLOW and HAILER), A., i, 327.

α-Phenylazo-δ-nitrophenylpentane-δ-ol-β-onecarboxylic acid, ethyl ester (PRAGER), A., i, 578.
α-Phenylazo-δ-*p*-nitrophenylpentane-β-one-αδ-olide (PRAGER), A., i, 578.
Phenylazoxyacetaldoxime, *p*-chloro- (BAMBERGER and GROB), A., i, 248.
Phenylazo-. See also Benzeneazo-.
1-Phenylbenziminoazole and its salts (FISCHER, RIGAUD, and KOPP), A., i, 188.
***N*-Phenylbenzimino-ethers** (LANDER), T., 593; P., **1902**, 72.
γ-Phenyl-α-benzoylacetoacetic acid, ethyl ester (HAILER and BÜLOW), A., i, 327.
α-Phenyl-γ-benzyl-Δ$^{\alpha}$-crotonolactone (THIELE and STRAUS), A., i, 158.
1-Phenylbenzylidenepyrrole (FEIST, WIDMER, and SAKOWITSCH), A., i, 491.
Phenylbenzylmethylallylammonium salts, isomeric (HANTZSCH and HORN), A., i, 277.
Phenylbenzyl-ψ-thiohydantoin, constitution of (WHEELER and JOHNSON), A., i, 761.
Phenylbiuret, *o*-, *m*-, and *p*-nitro- (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1568.
Phenylbromomalonic acid, ethyl ester (WHEELER and JOHNSON), A., i, 761.
4-Phenyl-bromo- and **-hydro-uracil** (FISCHER and ROEDER), A., i, 124.
α-Phenylbuta-Δ$^{\alpha,\gamma}$-diene (DOEBNER), A., i, 599.
***allo*Phenylbutadiene** and its polymeride (LIEBERMANN and RIIBER), A., i, 669.
and its tetrabromide (KLAGES), A., i, 669.
α-Phenyl-β-butylene and its dibromide (KLAGES), A., i, 669.
β-Phenyl-β-butylene and *p*-iodo- (KLAGES), A., i, 667.
Phenyl-*p-tert.*-butylphenyliodonium salts (WILLGERODT and RAMPACHER), A., i, 19.
γ-Phenylbutyronitrile, α-chloro-βγ-*di*-bromo- (THIELE and SALZBERGER), A., i, 157.
Phenylcarbimide (*phenyl* isocyanate), action of, on esters of some hydroxy-acids (LAMBLING), A., i, 537, 603, 756.
Phenylcarboxyaconitic acid, ethyl ester (RUHEMANN), T., 1214; P., **1902**, 181.
Phenyl-α-chloroacetic acid, *p*-chloro- (v. WALTHER and RAETZE), A., i, 466.
α-Phenyl-*p*-chlorocinnamonitrile, and *p*-nitro- (v. WALTHER and RAETZE), A., i, 467.
Phenylchloromethylenecamphor (FORSTER), P., **1902**, 237.
Phenylcinnamic acid, esters (BAKUNIN), A., i, 370.
Phenyl-crotononitrile and **-Δ$^{\alpha}$-crotonolactone** and its isomeride (THIELE and SALZBERGER), A., i, 157.
1-Phenyl-2-ψ-cumyliminoxanthide (TSCHUGAEFF), A., i, 605.
α-Phenyl-γγ-diamylthiolbutane-α-al (POSNER), A., i, 221.
Phenyldianisylmethane (FEUERSTEIN and LIPP), A., i, 768.
Phenyldiazomethane (HANTZSCH and LEHMANN), A., i, 325.
α-Phenyl-β-6-diazo-3-methoxycinnamic acid (PSCHORR and SEYDEL), A., i, 97.
α-Phenyl-γγ-dibenzylsulphonebutane-α-al (POSNER), A., i, 221.
Phenyldicarbylamine, combination of, with primary amines, and with sulphur, and its oxidation (SABANÉEFF, RAKOWSKY, and PROSIN), A., i, 604.
Phenyldi-ψ-cumylarsenic compounds (MICHAELIS and ROTTER), A., i, 523.
Phenyldiethylarsenic compounds (MICHAELIS and ULRICH), A., i, 412.
Phenyldihydrophenazine (KEHRMANN, BECKER, and CAPATINA), A., i, 570.
4-Phenyldihydro-2-picolone and its **-5-carboxylic acid** (KNOEVENAGEL and BRUNSWIG), A., i, 641.
Phenyldihydropinene, synthesis of (KONOWALOFF), A., i, 386.
5-Phenyl-2-dimethylamino-3-methylpheno-αβ-naphthacridine (ULLMANN), A., i, 500.
Phenyldimethyl*di*aminophenotolazoxonium chloride (MÖHLAU, KLIMMER, and KAHL), A., i, 840.
1-Phenyl-4-dimethylhydrouracil (SLIMMER), A., i, 207.
5-Phenyl-3:5-dimethylphenonaphthacridol, 2-amino-, and its acetyl derivative (ULLMANN, RACOVITZA, and ROZENBAND), A., i, 240.
1-Phenyl-3:5-dimethylpyrazole-4-acetic acid and its methyl ester and copper salt (MARCH), A., i, 706.
1-Phenyl-3:5-dimethylpyrazole-4-α- and **-β-propionic acids** (MARCH), A., i, 706.
1-Phenyl-2:3-dimethyl-5-pyrazolone and its derivatives, compounds of, with methyl aminohydroxybenzoates (EINHORN), A., i, 497.
1-Phenyl-2:3-dimethylpyrazolone, 5-thio- (MICHAELIS), A., i, 120.
See also Antipyrine, thio-.
1-Phenyl-2:5-dimethylpyrrole-3-carboxylic acid and its ethyl ester (FEIST), A., i, 489.
1-Phenyl-2:4-dimethyl-semicarbazide and **-urazole** (BUSCH), A., i, 501.

1-Phenyl-2:7-dimethylxanthen (FEUERSTEIN and LIPP), A., i, 769.

Phenyldi-*p*-tolylarsenic compounds (MICHAELIS and LAUTERWALD), A., i, 519.

3-Phenyl-2:6-di-*p*-tolyltetrahydro-1:4-pyrone (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.

Phenyldi-*m*-xylylarsenic compounds (MICHAELIS and ROTTER), A., i, 522.

***p*-Phenylene*di*amino*di*-*p*-chlorobenzyl** cyanide (v. WALTHER and RAETZE), A., i, 467.

Phenylenediamine nitrate, action of aluminium chloride on (GABUTTI), A., i, 312.

***m*-Phenylenediamine**, methylation of (MORGAN), T., 655; P., **1902**, 87.

***m*-Phenylenediamine**, 2:5-*di*chloro-, and its acyl derivatives, and the action of diazonium salts on (MORGAN and NORMAN), T., 1382; P., **1902**, 185.

4:6-*di*nitro- (BLANKSMA and MEERUM TERWOGT), A., i, 715.

nitroso- (TÄUBER and WALDER), A., i, 118.

***p*-Phenylenediamine**, chloro-, and its salts, and diacetyl and dibenzoyl derivatives (COHN), A., i, 442.

***m*-Phenylenediamine-5-carboxylic acid**, 3-chloro-. See Benzoic acid, 2-chloro-4:5-*di*amino-.

***m*-Phenylenedicarbylamine**, and ***p*-Phenylenedicarbylamine** and its tetrabromide (KAUFLER), A., i, 278.

***p*-Phenylenediimine** hydrobromide and 2:6-*di*bromo- (JACKSON and CALHANE), A., i, 645.

***m*-Phenylene-1:3-dimethyl*di*nitroamine**, 2:4:6-*tri*nitro- (BLANKSMA and MEERUM TERWOGT), A., i, 715.

Phenylethenylanilanthranilic anhydride (v. NIEMENTOWSKI), A., i, 614.

Phenylethenyldianthranilic acid and anhydride, and their salts (v. NIEMENTOWSKI), A., i, 614.

Phenylethenylhydrazidine and its hydrochloride and *p*-chloro-derivative, constitution of (VOSWINCKEL), A., i, 844.

α-Phenyl-α-ethoxy-β-nitro-*mono*- and -*di*-bromoethanes, *o*- and *p*-nitro- (FLÜRSCHEIM), A., i, 671.

β-Phenylethylamine and its hydrobromide and compounds with metallic haloids (JORDAN), A., i, 58.

β-Phenylethylcarbamic acid, ethyl ester (JORDAN), A., i, 58.

Phenylethylenedisulphone, *di*-*p*-bromo- and *di*-*p*-chloro- (TRÖGER and BUDDE), A., i, 776.

ψ-Phenylethylenephenyl*di*thiobiuret (WHEELER and MERRIAM), A., i, 538.

γ-Phenyl-γ-ethylidenepyrotartaric acid and its salts (STOBBE and NIEDENZU), A., i, 460.

2-Phenyl-1-ethylindole and 5-chloro- (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 493.

γ-Phenyl-γ-ethyl-itaconic acid and **-*iso*-itaconic acid** and their calcium salts (STOBBE and NIEDENZU), A., i, 460.

Phenyl ethyl ketone and its semicarbazone (BLAISE), A., i, 164.

Phenylethylmercaptole (BLANKSMA), A., i, 282.

Phenylethyl*di*thiocarbamic acid, ammonium salt (DELÉPINE), A., i, 702.

Phenyl formazyl ketone (BAMBERGER and WITTER), A., i, 406.

Phenyl-galactoside- and **-glucosido-galactosazone** (FISCHER and ARMSTRONG), A., i, 746.

β-Phenylglutaconic anhydride (BUCHNER and SCHRÖDER), A., i, 319.

β-Phenylglutaranil, *p*-nitro- (AVERY and BEANS), A., i, 679.

β-Phenylglutaranilic acid (VORLÄNDER), A., i, 310.

β-Phenylglutaranilic acid, *m*- and *p*-nitro- (AVERY and GERE; AVERY and BEANS), A., i, 679.

α-Phenylglutaric acid and its salts and γ-acetyl derivative (FICHTER and MERCKENS), A., i, 160.

β-Phenylglutaric acid and its imide and semipiperidide (VORLÄNDER), A., i, 310.

β-Phenylglutaric acid, *p-mono*- and 2:4-*di*-amino-, *o*- and *p-mono*- and 2:4-*di*-nitro-, and 2-nitro-4-amino-, and their methyl esters (SCHROETER and MEERWEIN), A., i, 544.

and its salts and anhydride, *m*-nitro- (AVERY and GERE), A., i, 679.

and its salts, dimethyl ester, and anhydride, *p*-nitro- (AVERY and BEANS), A., i, 679.

Phenylglycine, azo-dyes from (MAI), A., i, 250.

Phenylglycine-*o*-carboxylic acid (VORLÄNDER and v. SCHILLING), A., i, 94; (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 367.

acyl derivatives and their esters (VORLÄNDER, MUMME, and WANGERIN), A., i, 454.

N-alkyl derivatives of, and their esters (VORLÄNDER and MUMME), A., i, 451.

Phenylglycine-*o*-carboxylic acid, ethyl esters (CHEMISCHE FABRIK VON HEYDEN), A., i, 289.

Phenylglycine-*o*-carboxylic acid, diethyl ester, action of chlorocarbonates on (FARBWERK MÜHLHEIM VORM. A. LEONHARDT & Co.), A., i, 456.
acyl derivatives of (BADISCHE ANILIN- & SODA-FABRIK), A., i, 452.
triethyl ester (BADISCHE ANILIN- & SODA-FABRIK), A., i, 452.
Phenylglycine-*o*-carboxylic acid, nitroso- (VORLÄNDER and v. SCHILLING), A., i, 451.
and its diethyl ester (VORLÄNDER, MUMME, and WANGERIN), A., i, 454.
Phenylglycinehydroxamic acid and its sodium salt and acetyl derivative (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1574.
Phenylglycollic acid, phenylurethane of, and its salts (LAMBLING), A., i, 537.
Phenylglyoxime, *p*-bromo- and *p*-chloro- (COLLET), A., i, 625.
Phenyl group, migration of the, in styrene and its derivatives (TIFFENEAU), A., i, 666.
α-Phenyl-β-heptinyl alcohol (MOUREU and DESMOTS), A., i, 289.
β-Phenyl-β-*iso*heptylene (KLAGES), A., i, 668.
Phenyl*cyclo*hexane and its derivatives (KURSANOFF), A., i, 20.
Phenyl*cyclo*hexane, *p*-nitro-, and *p*-amino- and its salts and acetyl derivative (KURSANOFF), A., i, 20.
See also Hexamethylbenzene.
Phenylhydantonitrile (KLAGES), A., i, 355.
Phenylhydrazine, action of, on acylthiocarbamic and acyliminothiocarbonic esters (WHEELER and BEARDSLEY), A., i, 502.
action of formaldehyde on (GOLDSCHMIDT), A., i, 716.
biological character of (LEWIN), A., i, 67; ii, 160.
Phenylhydrazine, 4:6-*di*nitro-2-cyano- (BLANKSMA), A., i, 281.
Phenylhydrazine-*p*-sulphonic acid, additive compounds of, with aldehydes (BILTZ, MAUÉ, and SIEDEN), A., i, 571.
Phenylhydrazoacetaldoxime and its chloro-derivatives and their hydrochlorides (BAMBERGER), A., i, 246, 577; (BAMBERGER and GROB), A., i, 247; (BAMBERGER and FREI), A., i, 248, 404.
Phenylhydrazoacetaldoxime, *p*-chloro-, constitution of (VOSWINCKEL), A., i, 844.
Phenylhydrazones, electrolytic reduction of, in sulphuric acid (TAFEL and PFEFFERMANN), A., i, 498.
3-Phenyl-1-hydrindone-2-acetolactone and its semicarbazone (STOBBE and VIEWIG), A., i, 542.
Phenylhydroxycarbamide and its methyl and ethyl derivatives (FRANCESCONI and PARROZZANI), A., i, 140.
Phenylhydroxylamine, 3:5-*di*nitro- (COHEN and DAKIN), T., 29; P., **1901**, 214.
4:6-*di*nitro-2-cyano- (BLANKSMA), A., i, 281.
nitroso-, affinity constant of (HANTZSCH and BUCHNER), A., i, 209.
Phenylhydroxymethylenecamphor (FORSTER), P., **1902**, 237.
Phenylhydroxyoxamide and *o*-, *m*-, and *p*-nitro-, and their salts and acetyl derivatives (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1567; P., **1902**, 197.
Phenyliminobenzophenone and its salts, constitution of (GRAEBE), A., i, 683.
Phenyliminoquinonediazoimide (HANTZSCH), A., i, 324.
2-Phenylindole, and its 5-chloro-, 5-mono- and 1:5-di-methyl-, and 5-methyl-1-ethyl-derivatives (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 493.
3-Phenyl-1-indone-2-acetic acid and its salts, semicarbazone, and ethyl ester (STOBBE and VIEWIG), A., i, 542.
10-Phenyl-ψ-indophenazine (BURACZEWSKI and MARCHLEWSKI), A., i, 121.
Phenyl*di*iodonitrophenyliodonium hydroxide and salts, iodonitro- (WILLGERODT and ERNST), A., i, 18.
d-**Phenylitamalic acid**, salts (KREUTZ), A., i, 463.
Phenylleucauramine, *p*-nitro- (GUYOT and GRANDERYE), A., i, 398.
4-Phenyllutidinedicarboxylic acid, *p*-chloro- and its ethyl ester and dihydro-compound (v. WALTHER and RAETZE), A., i, 467.
Phenyl-2:4-lutidylalkine, *p*-amino- and *p*-nitro-, and their salts (KNICK), A., i, 825.
β-Phenylmaltoside (FISCHER and ARMSTRONG), A., i, 746.
Phenylmaltosazone, *p*-bromo- (FISCHER and ARMSTRONG), A., i, 745.
Phenylmelibiosazone, *p*-bromo- (FISCHER and ARMSTRONG), A., i, 746.
Phenylmercury acetate and chloride, and their *o*- and *p*-amino-derivatives and *o*-nitro- of the chloride (DIMROTH), A., i, 656; (PESCI), A., i, 849.
Phenylmethanebis-2:4-and-2:5-dimethylpyrrole-3-carboxylic acids, ethyl esters and nitro-derivatives (FEIST, WIDMER, and SAKOWITSCH), A., i, 490.

5-Phenyl-10-methylacridine toluenesulphinate (HANTZSCH and HORN), A., i, 312.

1-Phenyl-3-methylbenziminazoleol (FISCHER, RIGAUD, and KOPP), A., i, 188.

α-Phenyl-γ-methyl-αγ-butadiene (KLAGES), A., i, 669.

5-Phenyl-3-methyl-5:12-dihydrophenonaphthacridine, 2-amino- (ULLMANN, RACOVITZA, and ROZENBAND), A., i, 240.

Phenylmethylethenylhydrazidine, constitution of (VOSWINCKEL), A., i, 845.

Phenylmethylethylhydantoin (SLIMMER), A., i, 207.

3-Phenyl-5-methylfurfuran and its **-2:4-dicarboxylic acid** (BUCHNER and SCHRÖDER), A., i, 319.

Phenylmethylglycine, azo-dyes from (MAI), A., i, 249.

5-Phenyl-3-methyl*cyclo*hexane-3-ol-1-one-4:6-dicarboxylic acid, isomeric ethyl esters (RABE and ELZE), A., i, 710.

2-Phenyl-1-methylindole, 5-chloro- (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 493.

Phenylmethylmercaptole, 4-bromo-2-nitro-, 4-chloro-2-nitro-, and *p*-nitro- (BLANKSMA), A., i, 282.

Phenylmethylnitroamine, 2:4:6- and 4:2:6-bromo*di*nitro-, and 2:6:4- and 2:4:6-*di*bromonitro- (BLANKSMA), A., i, 600.

α-Phenyl-γ-methyl-αγ-pentadiene (KLAGES), A., i, 669.

5-Phenyl-3-methylpheno-αβ-naphthacridine, 2-amino- (ULLMANN), A., i, 499.

and its salts and their acetyl derivatives (ULLMANN), A., i, 55; (ULLMANN, RACOVITZA, and ROZENBAND), A., i, 240.

and *m*-nitro-, and the acetyl derivative of the amino-compound (ULLMANN), A., i, 56; (ULLMANN, RACOVITZA, and ROZENBAND), A., i, 240.

β-Phenyl-β-methyl-β-phenylethyl phenyl ketone, thio- (POSNER), A., i, 297.

Phenylmethylpropylcarbinol and its chloro-derivative (KLAGES), A., i, 668.

1-Phenyl-3-methylpyrazole, 5-chloro-4-bromo-, methiodide of (MICHAELIS and BINDEWALD), A., i, 317.

3-Phenyl-5-methylpyrazole-1-carboxylamide (POSNER), A., i, 83.

1-Phenyl-3-methylpyrazolone, condensation of, with *p*-nitroso-dimethyl- and -diethyl-aniline (SACHS and BARSCHALL), A., i, 503.

3-Phenyl-5-methyl-pyridazine, -pyridazinone, and **-pyridazone**, and the salts and 6-chloro-derivative of the pyridazine (OPPENHEIM), A., i, 187.

6-Phenyl-2-methylpyridine, action of aldehydes on (THORAUSCH), A., i, 234; (OLLENDORFF), A., i, 827.

action of *p*-tolualdehyde on (DIERIG), A., i, 826.

2-Phenyl-4-methylpyrimidine and its salts (SCHMIDT), A., i, 499.

4-Phenyl-6-methyl-1:2-pyrone-5-carboxylic acid and 3-bromo-, ethyl esters (BUCHNER and SCHRÖDER), A., i, 319.

3-Phenyl-5-methylpyrrole, 4-acyl derivatives, and **-4-carboxylic acid** and its ethyl ester (KNORR and LANGE), A., i, 821.

Phenylmethylselenetine salts, *d*- and *l*- (POPE and NEVILLE), T., 1553; P., **1902**, 198.

6-Phenyl-*p*-methyl-2-stilbazole and **-2-stilbazoline** and their salts (DIERIG), A., i, 827.

***s*-Phenylmethylsuccinic acid** and its salts (RUHEMANN), T., 1216; P., **1902**, 181.

5-Phenyl-10-methylthioacridol and its phenyl ether (HANTZSCH and HORN), A., i, 311.

Phenylmethyl*di*thiocarbamic acid, ammonium salt (DELÉPINE), A., i, 702.

1-Phenyl-3-methyl-5-thiomethylpyrazole (MICHAELIS and BINDEWALD), A., i, 317.

1-Phenyl-2-methyl-2:5-thiopyrazole and its derivatives (MICHAELIS and BINDEWALD), A., i, 317.

1-Phenyl-5-methyl-1:2:3-triazole and its **-4-carboxylic acid** and its salts and esters (DIMROTH), A., i, 403.

1-Phenyl-5-methyl-1:2:4-triazole 3-mercaptan (WHEELER and BEARDSLEY), A., i, 503.

2-Phenylnaphthalene-1:7-dicarboxylic acid and anhydride (GRAEBE and GNEHM), A., i, 679.

Phenyl naphthalidomethyl ketone and its oxime, phenylhydrazone, methyl ester, and oxamino-oxime anhydride (ZINK), A., i, 34.

Phenyl-β-naphthylamine-6-sulphonic acid (BADISCHE ANILIN- & SODA-FABRIK), A., i, 91.

Phenyl-α-naphthylmethyl bromide, **-acetamide, -benzamide, -thiocarbamides**, and **-thiocarbimide** (WHEELER and JAMIESON), A., i, 762.

Phenyl-α-naphthylmethylphenylsemithiocarbazide (WHEELER and JAMIESON), A., i, 763.

Phenylnitroamine, affinity constant of (HANTZSCH and BUCHNER), A., i, 209.
Phenylnitrocinnamic acids, esters (BAKUNIN), A., i, 370.
6-Phenyl-*o*-nitro-2-β-hydroxyphenethylpyridine and its salts (THORAUSCH), A., i, 235.
Phenylnitrosoamine, 2:4:6-*tri*bromo- (HANTZSCH and POHL), A., i, 843.
Phenyl*iso*nitrosoglycine, ethyl ester, synthesis of (JOVITSCHITSCH), A., i, 202.
6-Phenyl-2-*o*- and -*m*-nitrostilbazole and their salts (THORAUSCH), A., i, 234.
α-Phenyl-β-octinyl alcohol (MOUREU and DESMOTS), A., i, 289.
Phenyloxamic acid, *o*- and *p*-nitro-, ethyl esters (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1568.
2-Phenyloxazolidine and its 3-methyl and 3-isobutyl derivative (KNORR and MATTHES), A., i, 56.
Phenyloxyarsinodiarylcarboxylic acids (MICHAELIS), A., i, 520.
Phenylparaconic acid, resolution of, into its active isomerides, and their salts (KREUTZ), A., i, 462.
Phenyl-2-phenanthrylamine (WERNER), A., i, 440.
Phenylphenonaphthacridine derivatives (ULLMANN), A., i, 55, 56, 499, 500; (ULLMANN, RACOVITZA, and ROZENBAND; ULLMANN, ROZENBAND, MÜHLHAUSER, and GRETHER), A., i, 240.
Phenylphenyl-. See Diphenyl-.
Phenylphthalamic acid, nitroso-derivative of (KUHARA and FUKUI), A., i, 35.
Phenylphthalimides, *s*- and *a*- (KUHARA and FUKUI), A., i, 34.
Phenyl-2-picolylalkine. See β-Hydroxy-β-phenyl-2-ethylpyridine.
6-Phenyl-2-picolyl-*p*-nitrophenylalkine. See β-Hydroxy-β-phenyl-2-ethyl-6-phenylpyridine, *p*-nitro-.
6-Phenyl-2-piperonylalkidine and its salts (THORAUSCH), A., i, 234.
β-Phenylpropaldehyde and its semicarbazone (TIFFENEAU), A., i, 433.
α-Phenylpropane-αaγ-tricarboxylic acid, ethyl ester (FICHTER and MERCKENS), A., i, 160.
Phenylpropiolic acid, preparation of (MICHAEL), A., i, 32.
Phenylpropionic acid, azoimide and hydrazide of (JORDAN), A., i, 57.
β-Phenylpropionic acid (*hydrocinnamic acid*) salts (MICHAEL), A., i, 33.
Phenyl propionyl nitrogen bromide and **chloride**, bromo-derivatives of (CHATTAWAY), T., 816; P., **1902**, 113.
Phenyl propionyl nitrogen bromide and **chloride**, chloro-derivatives of (CHATTAWAY), T., 639; P., **1902**, 64.
Phenyl-*n*- and -*iso*-propylhydantoins (SLIMMER), A., i, 206.
Phenyl *n*-propyl ketone and its oxime, phenylhydrazone, semicarbazone, and hydrochloride (SORGE), A., i, 380.
1-Phenylpyrazole, 5-chloro-, methiodide of (MICHAELIS and BINDEWALD), A., i, 317.
5-(or **3-**)**Phenylpyrazole** and its amino-, tribromoamino-, and nitro-derivatives and their salts; and the acyl, benzylidene, and thiocarbamide compounds of the amino-derivative (BUCHNER and HACHUMIAN), A., i, 236.
Phenylpyrazolecarboxylic acid, 5:3- or 3:5-, and its esters (BUCHNER and LEHMANN), A., i, 236.
4-Phenylpyrazole-3:5-dicarboxylic acid ethyl ester (BUCHNER and SCHRÖDER), A., i, 319.
and its methyl ethyl ester (BUCHNER and VON DER HEIDE), A., i, 236.
Phenylpyridazine and its methiodide (POPPENBERG), A., i, 61.
3-Phenylpyridine-2:6-dicarboxylic acid and its anhydride, and monamide, and salts (MARCKWALD and DETTMER), A., i, 235.
6-Phenyl-2-pyridylacrylic acid and its platinichloride (OLLENDORFF), A., i, 828.
2-Phenylpyrimidine, 5-bromo- and 5-chloro- (KUNCKELL and v. ZUMBUSCH), A., i, 835.
2-Phenylpyrimidine-6-carboxylic acid, 5-amino-, and its hydrochloride, and 5-bromo- and 5-chloro- and their benzamidine derivatives and barium salts (KUNCKELL and v. ZUMBUSCH), A., i, 835.
1-Phenylpyrrole and its **2-mono-** and **2:5-di-carboxylic acids** and their salts, and esters of the mono-acid (PICTET and STEINMANN), A., i, 562.
3-Phenylpyrrole-4-carboxylo-5-acetic acid, dimethyl ester (KNORR and LANGE), A., i, 821.
3-Phenylquinolineazone, and its 2-methyl and 2-ethyl derivatives (JEITELES), A., i, 62.
Phenylsemicarbazidedicarboxylic acid, ethyl ester (ACREE), A., i, 242; (WHEELER and BEARDSLEY), A., i, 503.
4-Phenylsemithiocarbazide, *p*-chloro- (BUSCH and ULMER), A., i, 575
6-Phenylstilbazole, 2-*p*-nitro- and its salts (OLLENDORFF), A., i, 827.

Phenylsuccinimide and its alkyl substituted derivatives, stability of (GILBODY and SPRANKLING), T., 802; P., **1900**, 225.

Phenylsulphoneacetic acids, *p*-bromo- and *p*-chloro-, and their ethyl esters (TRÖGER and BUDDE), A., i, 776.

Phenylsulphone-ethyl alcohol, *p*-bromo- and *p*-chloro- (TRÖGER and BUDDE), A., i, 776.

β-Phenylsulphone-β-methyl-β-phenylethyl phenyl ketone (POSNER), A., i, 298.

β-Phenylsulphone-β-phenylethyl methyl ketone (POSNER), A., i, 297.

α-Phenylsulphone-β-phenylethyl phenyl ketone (POSNER), A., i, 297.

Phenyl tetrahydronaphthyl ketone and its oximes (SCHARWIN), A., i, 626.

Phenyltetrazolylthiocarbamide (RUHEMANN and STAPLETON), T., 262.

Phenyl*di*thiocarbazinic acid, methylene and pentamethylene esters (BUSCH and LINGENBRINK), A., i, 573.

Phenylthiocyanoacetic acid, ethyl ester (WHEELER), A., i, 28.

Phenylthiocyanomalonic acid, ethyl ester (WHEELER and JOHNSON), A., i, 761.

Phenylthiodiazolinethiol methylene ester (BUSCH and LINGENBRINK), A., i, 573.

Phenyl-ψ-thiohydantoin, constitution of (WHEELER and JOHNSON), A., i, 762.

Phenyl-ψ-thiohydantoins, labile and stable, and their salts and acetyl derivatives (WHEELER and JOHNSON), A., i, 759.

s-**Phenyl-α-thiophencarbamide** (CURTIUS and THYSSEN), A., i, 305.

Phenyl-*p*-tolylarsenic compounds (MICHAELIS and PREDARI)), A., i, 516.

1-Phenyl-2-*o*-tolyl-3-ethyliminoxanthide (TSCHUGAEFF), A., i, 605.

Phenyl-*o*- and -*p*-tolylguanidines (HELLER and BAUER), A., i, 445.

Phenyl-*p*-tolyliodonium salts (PETERS), T., 1353; P., **1902**, 184.

Phenyl-*p*-tolylmethyl bromide (WHEELER and JAMIESON), A., i, 762.

Phenyl-*p*-tolylmethyl-acetamide, **-thiocarbamides**, and **-thiocarbimide** (WHEELER and JAMIESON), A., i, 762.

1-Phenyl-3-*p*-tolyloxyformamidine and its copper salt (LEY), A., i, 445.

5-Phenyl-1-*p*-tolyl-1:2:4-triazole 3-mercaptan (WHEELER and BEARDSLEY), A., i, 503.

Phenyltriazan, derivatives of (WOHL and SCHIFF), A., i, 578.

1-Phenyl-1:2:3-triazole (DIMROTH), A., i, 403.

1-Phenyl-1:2:3-triazole-4- and **-5-carboxylic acids**, and their salts and esters, and 1-amino- and 1-nitro-derivatives (DIMROTH), A., i, 403.

Phenyltrimethylenedicarboxylic acid and its salts and anhydride (RUHEMANN), T., 1215; P., **1902**, 18

Phenyl-ψ-trimethylene*di*thiobiuret (WHEELER and MERRIAM), A., i, 538.

1-Phenyl-3:4:5-trimethylpyrazole (POSNER), A., i, 83.

Phenyluracil, synthesis of (FISCHER and ROEDER), A., i, 124, 188.

Phenylurazole, constitution of (ACREE), A., i, 242; (BUSCH), A., i, 321, 501.

Phenyl *p*-xylyl ketone and its oxime (STRZELECKA), A., i, 470.

Philothion, de Rey-Pailhade's, identity of, with Loew's catalase (POZZI-ESCOT), A., i, 513.

Phloridzin, influence of, on the elimination of sodium chloride (LÉPINE and MALTET), A., ii, 617.

diabetes. See Diabetes, phloridzin.

Phloroglucinol and its trimethyl ether, absorption spectra of (HARTLEY, DOBBIE, and LAUDER), T., 929; P., **1902**, 171.

methyl ethers, chloro-derivatives of (KASERER), A., i, 771.

Phloroglucinol, halogen derivatives of (HERZIG and KASERER; KASERER), A., i, 771.

*tri*bromo-, decomposition of (HERZIG and KASERER), A., i, 771.

Phloroglucinolcarboxylic acid and its methyl ethers, and their methyl esters (HERZIG and WENZEL), A., i, 463.

Phoenicein and **Phoenin** (KLEEREKOPER), A., i, 48, 111.

Phonolites of Spitzberg, Bohemia (TRENKLER), A., ii, 332.

Phorone and *iso***Phorone** (TITHERLEY), T., 1526; P., **1902**, 187.

Phosgene. See Carbonyl chloride.

Phosphates. See under Phosphorus and Agricultural Chemistry.

"**Phosphin**," constitution of (ULLMANN and MARIĆ), A., i, 183.

Phosphine. See Hydrogen phosphide.

Phosphomannitic acid and its salts (PORTES and PRUNIER), A., i, 526.

Phosphonium chloride, the condition diagram for (TAMMANN), A., ii, 69.

Phosphorescence of long duration, theory of (DE VISSER), A., ii, 237.

Phosphorus, allotropy of (WEGSCHEIDER and KAUFLER), A., ii, 17.

red (SCHENCK), A., ii, 205.

effect of temperature and moisture on the emanation of (BARUS), A., ii, 59.

Phosphorus, mixtures of, with sulphur below 100° (BOULOUCH), A., ii, 560.
nutrition of plants with (SCHLŒSING), A., ii, 220.
metabolism of, in Herbivora (TANGL), A., ii, 272.
poisoning by, fat-transference in (KRAUS and SOMMER), A., ii, 342.
compounds of, with selenium (MEYER), A., ii, 393.
Phosphorus haloids, action of, on dihydroresorcins (CROSSLEY and LE SUEUR), P., **1902**, 238.
*tri*chloride, action of, on organic acids (DELACRE), A., i, 527.
action of, on glycerol and on glycol (A. and L. LUMIÈRE and PERRIN), A., i, 9; (CARRÉ), A., i, 338.
*penta*chloride, action of, on aniline (GILPIN), A., i, 700.
Phosphoryl chloride and bromide, determination of the molecular weight of, by the boiling point method (ODDO), A., ii, 6.
and its derivatives, molecular configuration of (CAVEN), T., 1362; P., **1901**, 26.
molecular weight of, in benzene (ODDO), A., ii, 6; (CIAMICIAN), A., ii, 123.
Phosphorus *sub*oxide (BROWNING), P., **1901**, 243.
Phosphoric oxide, vapour density of (WEST), T., 928; P., **1902**, 138.
Phosphorus *tetr*oxide (*phosphorosophosphoric oxide*) (WEST), T., 923; P., **1901**, 138.
Phosphorus acids:—
Hypophosphorous acid, compounds of, with molybdenum oxide (MAWROW), A., ii, 25, 144.
Phosphorous acid, esterification of, by glycerol and glycol (CARRÉ), A., i, 131.
Phosphoric acid in wines (PATUREL), A., ii, 284.
rôle of, in wine analysis (WOY), A., ii, 105.
acidimetry of (BERTHELOT), A., ii, 255.
excretion of, in flesh and vegetable feeders (BERGMANN), A., ii, 276.
compounds of, with aromatic aldehydes and esters (RAIKOW and SCHTARBANOW), A., i, 228.
compounds of, with aromatic ketones (KLAGES), A., i, 624.
esters, from egg-albumin (BECHHOLD), A., i, 331.
influence of potassium ferrocyanide on the precipitation of, by molybdate solution (LEUBA), A., ii, 585.
Phosphorus acids:—
Phosphoric acid, estimation of citrate-insoluble (HARRIS), A., ii, 353.
estimation of, by gasometric method (RIEGLER), A., ii, 104.
estimation of total, in basic slags (ASCHMAN), A., ii, 627.
estimation of, in organic substances (RIEGER), A., ii, 225.
estimation of, in phosphates (MULLER), A., ii, 174.
See also Agricultural Chemistry.
Phosphates, localisation of, in the sugar cane (SPRANKLING), T., 1543; P., **1902**, 196.
insoluble, formation of, by double decomposition (BERTHELOT), A., ii, 256.
significance of, in natural waters (WOODMAN), A., ii, 702.
action of hydrogen peroxide on (PETRENKO), A., ii, 316.
See also Agricultural Chemistry.
Metaphosphoric acid, rate of hydration of (J. C. and F. C. BLAKE), A., ii, 197.
compounds of, with proteids (FULD), A., i, 511.
Tri- and **Hexa-metaphosphates** (WEISLER), A., ii, 17.
Pyrophosphoric acid, acidity and heat of solution of (GIRAN), A., ii, 549.
velocity of hydration of (MONTEMARTINI and EGIDI), A., ii, 451.
Superphosphates, analysis of (LEGRAND), A., ii, 627.
Phosphorus sulphochloride, determination of the molecular weight of, by the boiling point method (ODDO), A., ii, 6.
sesquisulphide and its behaviour with Mitscherlich's test (CLAYTON), P., **1902**, 129.
Phosphorus *tri*thiocyanate, action of, on alcohols (DIXON), T., 168; P., **1901**, 260.
Phosphorus, detection and estimation of:—
Mitscherlich's test for, in presence of alcohol (HABERMANN and OESTERREICHER), A., ii, 224.
detection of, in cases of poisoning (ALESSANDRI), A., ii, 288.
rapid estimation of (RAMORINO), A., ii, 473.
estimation of, in iron and steel (ANTONY), A., ii, 47.
estimation of, in presence of organic matter (MEILLÈRE), A., ii, 288.
estimation of soluble, in soil (SCHLŒSING), A., ii, 221.

Phosphotungstic acid, action of amino-acids on (SCHULZE and WINTERSTEIN), A., i, 137.

PHOTOCHEMISTRY :—

Light, chemical action of (CIAMICIAN and SILBER), A., i, 433 ; (ARCHETTI), A., ii, 485.

chemical action of, chemical dynamics and statics under the (WILDERMANN), A., ii, 545.

action of, on the action of bromine on metallic silver (v. CORDIER), A., ii, 18.

influence of, on the combination of carbon monoxide with chlorine (DYSON and HARDEN), P., **1902**, 191.

action of, on chlorine gas (MELLOR), T., 1280 ; P., **1902**, 169.

action of, on the combination of chlorine and hydrogen (MELLOR and ANDERSON), T., 414 ; P., **1902**, 32 ; (BEVAN), A., ii, 237.

action of, on enzymes and toxins (EMMERLING), A., i, 195.

Photochemical reactions, kinetics of (GOLDBERG), A., ii, 485.

Photographic images, negative, formation of, by the action of vapours (VIGNON), A., ii, 438.

prints, theory of the reactions occurring in solutions employed for the combined toning and fixing of, on silver chloride-citrate paper (A. and L. LUMIÈRE and SEYEWETZ), A., ii, 319 ; (JOUVE), A., ii, 656.

Toning solutions containing lead thionates (A. and L. LUMIÈRE and SEYEWETZ), A., ii, 606.

Photographs of spark spectra (ADENEY), A., ii, 57.

Radiations from radioactive substances, properties of (BECQUEREL), A., ii, 238.

from a mixture of barium and radium chlorides, reflection of (TOMMASINA), A., ii, 190.

from radium, chemical effects of (BERTHELOT), A., ii, 18, 136 ; (BECQUEREL), A., ii, 57.

from radium and thorium, condensation points of (RUTHERFORD and SODDY), P., **1902**, 219.

Radioactive bismuth (MARCKWALD), A., ii, 508.

lead (HOFMANN and WÖLFL), A., ii, 261, 397.

thorium (HOFMANN and ZERBAN), A., ii, 211.

PHOTOCHEMISTRY :—

Radioactive substances (GIESEL), A., ii, 78, 208 ; (HOFMANN and STRAUSS), A., ii, 78 ; (P. and S. CURIE), A., ii, 190 ; (HENNING), A., ii, 297.

properties of radiations from (BECQUEREL), A., ii, 238.

comparison of the radiations from (RUTHERFORD and BROOKS), A., ii, 590.

deviable rays of (RUTHERFORD and GRIER), A., ii, 637.

influence of, on the luminescence of gases (DE HEMPTINNE), A., ii, 58.

Radioactivity, cause and nature of (RUTHERFORD and SODDY), T., 837 ; P., **1902**, 120.

as a general property of matter (MARTIN), A., ii, 438.

and the electron theory (CROOKES), A., ii, 374.

absorption of, by liquids (TOMMASINA), A., ii, 438.

imparted to salts by cathode rays (MCLENNAN), A., i, 297.

induced, excited by radium salts (CURIE and DEBIERNE), A., ii, 58.

of thorium compounds (RUTHERFORD and SODDY), T., 321, 837 ; P., **1902**, 2, 120.

of uranium (SODDY), T., 860 ; P., **1902**, 121 ; (BECQUEREL), A., ii, 117.

Cathode rays, chemical action of (SCHMIDT), A., ii, 237.

radioactivity induced by (MCLENNAN), A., i, 297.

Röntgen rays, law of transparency of matter for (BENOIST), A., ii, 191.

absorption of, by aqueous solutions (MCCLUNG and MCINTOSH), A., i, 297.

Tesla rays, behaviour of aldehydes and ketones towards (KAUFFMANN), A., ii, 191.

Ultra-violet rays, dispersion of (MARTENS), A., ii, 117.

Anæropolarimetry (TER BRAAKE), A., i, 742.

Polarisation of fruits, jellies, jams, and honeys (TOLMAN), A., ii, 537.

Rotation of optically active compounds, influence of solvents on the (PATTERSON), T., 1097, 1134 ; P., **1902**, 133.

of the esters of *l*-borneol (MINGUIN and DE BOLLEMONT), A., i, 383.

of lactic acid and its potassium salt, influence of acidic oxides on the (HENDERSON and PRENTICE), T., 658 ; P., **1902**, 88.

PHOTOCHEMISTRY:—
Rotation of tartrates in glycerol and in water (LONG), A., i, 75.
of ethyl tartrate, influence of benzene, toluene, *o*-, *m*-, and *p*-xylene and of mesitylene on the (PATTERSON), T., 1097; P., **1902**, 133.
influence of naphthalene on (PATTERSON), T., 1134; P., **1902**, 133.
of sodium hydrogen tartrate, action of ammonium paramolybdate on the (KLASON and KÖHLER), A., i, 75; (ITZIG), A., i, 259.
of sucrose (PELLAT), A., i, 264.
of sucrose when dissolved in amines (WILCOX), A., i, 747.
of sucrose in pyridine and in water (WILCOX), A., i, 83.
of lichen derivatives (SALKOWSKI), A., i, 228.
of blood serum (DONGIER and LESAGE), A., ii, 411.
Rotation dispersion of spontaneously active substances (WINTHER), A., ii, 589.
Magnetic rotation, dispersion of, in negatively rotating salt solutions (SIERTSEMA), A., ii, 237.
of ring compounds (PERKIN), T., 292; P., **1902**, 28.
of some polyhydric alcohols, hexoses, and saccharobioses (PERKIN), T., 177; P., **1901**, 256.
of β-bromocamphor (PERKIN), T., 1465.
of 3:5-*di*chloro-1:1-dimethyl-$\Delta^{2:4}$-dihydrobenzene (PERKIN), T., 828.
of 3:5-*di*chloro-*o*-xylene (PERKIN), T., 1535.
of 1:1-dimethyl-$\Delta^{2:4}$-dihydrobenzene (PERKIN), T., 836.
Birotation of glucosamine (SUNDVIK), A., i, 137.
Mutarotation of camphorquinonehydrazone, and the influence of catalytic agents on it (LAPWORTH and HANN), T., 1508; P., **1902**, 143.
Refraction in relation to dielectric constants of nitrogen compounds (VAN AUBEL), A., ii, 373.
of mixed liquids (VAN AUBEL), A., ii, 373.
of normal salt solutions (BENDER), A., ii, 437.
of solutions in carbon disulphide (FORCH), A., ii, 589.
of salts of borotungstic acid (KAHLBAUM, ROTH, and SIEDLER), A., ii, 260.

PHOTOCHEMISTRY:—
Refraction of borneol and camphor and its derivatives (PERKIN), T., 317; P., **1902**, 29.
of β-bromocamphor (PERKIN), T., 1465.
of 3:5-*di*chloro-1:1-dimethyl-$\Delta^{2:4}$-dihydrobenzene (PERKIN), T., 828.
of 3:5-*di*chloro-*o*-xylene (PERKIN), T., 1535.
of dimethyl-$\Delta^{2:4}$-dihydrobenzene (PERKIN), T., 836.
of blood serum (DONGIER and LESAGE), A., ii, 411.
Refractometer, use of, in milk analysis (UTZ), A., ii, 539; (HALS and GREGG), A., ii, 708.
Dispersion of salts of borotungstic acid (KAHLBAUM, ROTH, and SIEDLER), A., ii, 260.
Spectra, gaseous, dark lines in (TROWBRIDGE), A., ii, 589.
ultra-violet absorption (DROSSBACH), A., ii, 190, 374.
of the dissociation of water vapour (TROWBRIDGE), A., ii, 589.
quantitative, of beryllium (HARTLEY), A., ii, 237.
of cæsium, potassium, and rubidium (RAMAGE), A., ii, 637.
of carbon, effect of hydrogen on the (HERBERT), A., ii, 637.
of cyanogen, peculiarities in the (KING), A., ii, 373.
in coal gas flame (HARTLEY), A., i, 208.
of the rare earths (LANGLET), A., ii, 189.
absorption, of metallic nitrates (HARTLEY), T., 556; P., **1902**, 67, 239.
banded flame, of metals (HARTLEY), A., ii, 189.
spark, of metals, photographs of (ADENEY), A., ii, 57.
band, of nitrogen (DESLANDRES), A., ii, 373.
of biliverdin, bilirubin, proteinchromone, and urobilin (BIER and MARCHLEWSKI), A., i, 636.
of methyl derivatives of indigotin (KUHARA and CHIKASHIGÉ), A., i, 228.
of isatin and indophenazine derivatives (v. KORCZYNSKI and MARCHLEWSKI), A., i, 648.
of mesoporphyrin and phylloporphyrin (MARCHLEWSKI), A., i, 636.
absorption, of phenol, phloroglucinol and some of its derivatives, and pyrogallol (HARTLEY, DOBBIE, and LAUDER), T., 929; P., **1902**, 171.

PHOTOCHEMISTRY :—
Spectra of colour bases from *p*-tolyl-α-naphthylamine and nitroso-dimethyl- and -diethyl-*m*-aminophenol (GNEHM and RÜBEL), A., i, 146.
of the aurora borealis, nature and constitution of (STASSANO), A., ii, 437.
lamps for (BECKMANN), A., ii, 373.
Spectroscopy and the constitution of matter (EGINITIS), A., ii, 437.
use of helium in (TSCHERMAK), A., ii, 189.
Photography. See Photochemistry.
Photosantonic acid, constitution of (FRANCESCONI and VENDETTI), A., i, 545.
*iso***Photosantonic acid**, constitution of, and its oxime (FRANCESCONI and VENDETTI), A., i, 546.
*iso***Photosantonolactoneoxime** and its acetyl derivative, and phenylhydrazone (FRANCESCONI and VENDETTI), A., i, 546.
Phrynolysin (PRÖSCHER), A., ii, 278.
*iso***Phthalaldehyde** tetra-acetates (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 102.
Phthalamic acid, 3-nitro- (BOGERT and BOROSCHEK), A., i, 98.
Phthalhydroxylamic acid (BASLER CHEMISCHE FABRIK), A., i, 720.
Phthalic acid, *di*chloromethyl ester (DESCUDÉ), A., i, 451.
Phthalic acid, α-amino- (ONNERTZ), A., i, 101.
α- and β-amino-, and α- and β-nitro-, and their imides (SEIDEL), A., i, 159 ; (KAHN), A., i, 228.
3:5-*di*chloro-, and its diethyl ester, silver salt, anhydride, anil and imide (CROSSLEY and LE SUEUR), T., 1536; P., **1902**, 191.
3:6-*di*chloro- and 3- and 4-nitro-, conductivity of the esters of (WEGSCHEIDER), A., i, 617.
*tetra*chloro- and 3-nitro-, amyl esters (MARCKWALD), A., i, 459.
3- and 4-nitro-, and their derivatives (BOGERT and BOROSCHEK), A., i, 98; (ONNERTZ), A., i, 99.
p-**Phthalic acid.** See Terephthalic acid.
Phthalic anhydride, behaviour of, towards water (VAN DE STADT), A., ii, 598.
Phthalic chloride, action of, on aromatic amines (KUHARA and FUKUI), A., i, 34.
Phthalimide, 3-chloro- (BOGERT and BOROSCHEK), A., i, 98.
3- and 4-nitro- (SEIDEL and BITTNER), A., i, 719.
ε-**Phthaliminoamyl** mercaptan and sulphides (MANASSE), A., i, 352.
Phthaliminoamylmalonic acid, ethyl ester (MANASSE), A., i, 351.
Phthalochloroimide (TSCHERNIAC and BRAUN), A., i, 140.
Phthalylhydroxylamine (BASLER CHEMISCHE FABRIK), A., i, 720.
Phthalyl-2:4-tolylenediamines, 2- and 4- (GEIGY & Co.), A., i, 497.
Phylloporphyrin (MARCHLEWSKI), A., i, 387.
comparison of, with mesoporphyrin (MARCHLEWSKI), A., i, 636.
Physiological action and chemical constitution (LAFFONT), A., ii, 466.
of acetone and chloral hydrate (ARCHANGELSKY), A., ii, 36.
of adenine and guanine (SCHITTENHELM), A., ii, 617.
of adrenalin (TAKAMINE), A., ii, 217.
of organic ammonium iodides (JACOBJ), A., ii, 620.
of extracts of animal tissues (VINCENT and SHEEN), A., ii, 519.
of borax and boric acid (ROST ; RUBNER ; NEUMANN ; HEFFTER ; POLENSKE), A., ii, 620.
of bufonin and bufotalin (FAUST), A., i, 447.
of calcium hypophosphite (MASSOL and GAMEL), A., ii, 37 ; (PANZER), A., ii, 225.
of curare and physostigmine (ROTHBERGER), A., ii, 38.
of episine (VAHLEN), A., i, 818.
of formaldehyde (KOCH), A., ii, 165.
of α-glucoheptose (WOHLGEMUTH), A., ii, 616.
of guanidine (POMMERRENIG), A., ii, 274.
of "hypnotoxin" (PORTIER and RICHET), A., ii, 343.
of ibogaine (DYBOWSKI and LANDRIN), A., i, 114.
of ibogine (LAMBERT and HECKEL), A., ii, 219.
of ipohine (HARTWICH and GEIGER), A., i, 115.
of extracts of kidneys (GÉRARD), A., ii, 575.
correlation of the constitution and, of morphine (VAHLEN), A., i, 727.
of decoction of mussels (THIBERT), A., ii, 96.
of pentosans (KÖNIG and REINHARDT), A., ii, 273.
of some pyrrole, pyrrolidine, and pyrroline derivatives (TUNNICLIFFE and ROSENHEIM), A., ii, 681.
of rhamnose (CREMER), A., ii, 154.
of salt (FREDERICQ), A., ii, 154.

Physiological action of selenium and its compounds (WOODRUFF and GIES), A., ii, 278.
of hydrogen selenide, sulphide, and telluride (DE FORCRAND and FONZES-DIACON), A., ii, 557.
of xylan (SLOWTZOFF), A., ii, 154.
of yohimbine hydrochloride (ARNOLD and BEHRENS), A., i, 233.
of zein (SZUMOWSKI), A., ii, 674.
of *Zygadenus venenosus* (HUNT), A., ii, 278.
Physostigmine, physiological action of (ROTHBERGER), A., ii, 38.
Phytosterol, esters of (BÖMER and WINTER), A., i, 30.
Piceapimaric, Picipimarinic, Picipimarolic acids and **Picoresen** (TSCHIRCH and KOCH), A., i, 552.
Piceol, constitution of (CHARON and ZAMANOS), A., i, 104.
2-Picoline (2-*methylpyridine*) from Scottish shale oil (GARRETT and SMYTHE), T., 451; P., **1900**, 190; **1902**, 47.
action of anisaldehyde on (BIALON), A., i, 828.
condensation of, with formaldehyde (KOENIGS and HAPPE), A., i, 394.
action of *p*-tolualdehyde on (DIERIG), A., i, 826.
derivatives (FEIST), A., i, 642.
γ-Picoline-3:5-di- and -tetra-carboxylic acids (WOLFF, GABLER, and HEYL), A., i, 677.
Picolinic acid and its amide and their aurichlorides (MEYER), A., i, 727.
Picramide, compound of, with 4:4′-tetramethyl*di*aminodiphenylmethane (LEMOULT), A., i, 751.
Picric acid, solubility of, in benzene and in water (FINDLAY), T., 1219; P., **1902**, 172.
partition coefficient of, between water and amyl alcohol, water and ether, and water and toluene (SISLEY), A., i, 815.
behaviour of, towards boiling alkali hydroxides (WEDEKIND and HAEUSSERMANN), A., i, 367.
compound of, with 4:4′-tetramethyl- and 4:4′-tetraethyl-*di*aminodiphenylmethane (LEMOULT), A., i, 751.
Picriminothiocarbonic esters (CROCKER), T., 436; P., **1902**, 57.
Picrocrocin, dextrose from (KASTNER), A., i, 685.
Picrolichenic acid (ZOPF), A., i, 465.
Picryl chloride, action of sodium nitrite on (KYM), A., i, 16.
Pigeonite from Minnesota (WINCHELL), A., ii, 462.
Pigment, blue, from *Crenilabrus pavo* (V. ZEYNEK), A., i, 168.
Pigments, relationship of, and iron in the liver and skin (FLORESCO), A., ii, 157.
Pigs. See Agricultural Chemistry.
Pilocarpic acid and its additive compounds (PINNER and SCHWARZ), A., i, 233.
*iso***Pilocarpic acid** and its additive compounds (PINNER and SCHWARZ), A., i, 232.
*iso***Pilocarpic acid**, *di*bromo- (PINNER and SCHWARZ), A., i, 639.
Pilocarpine (PINNER and SCHWARZ), A., i, 232.
constitution of (PINNER and SCHWARZ), A., i, 638.
action of, on echinoderm embryos (MATHEWS), A., ii, 96.
Pilocarpoeic acid (PINNER and SCHWARZ), A., i, 232.
Pilomalic acid (PINNER and SCHWARZ), A., i, 232.
Piluvic acid (PINNER and SCHWARZ), A., i, 232.
Pimelic acid (*isopropylsuccinic acid; pentanedicarboxylic acid*) (CROSSLEY), T., 676; P., **1901**, 172; **1902**, 86.
Pinacolin (*methyl* tert.*butyl ketone*), isomerism of (DELACRE), A., i, 79.
Pinacone (m.p. 128—130°) from hexenone (WALLACH and SCHEUNERT), A., i, 724.
Pine forests, maritime, air of (DUPHIL), A., ii, 204.
Pinene from the oil of *Asarum canadense* (POWER and LEES), T., 61; P., **1901**, 210.
from oil of rue (POWER and LEES), T., 1590; P., **1902**, 193.
and its derivatives, magnetic rotation of (PERKIN), A., 292; P., **1902**, 29.
action of arsenic acid on (GENVRESSE), A., i, 300.
derivatives (TILDEN and BURROWS), P., **1902**, 161.
l-**Pinene**, oxidation of, with mercuric acetate (BALBIANO and PAOLINI), A., i, 808.
Pinenolglycuronic acid (FROMM and HILDEBRANDT), A., ii, 159.
Pink salt. See Ammonium tin chloride.
Pinnoite, artificial preparation of (VAN'T HOFF and BRUNI), A., ii, 666.
Pinylthiocarbimide (V. BRAUN and RUMPF), A., i, 275.
Pipecoline, 1-amino- and nitroso- (V. OSTOJA BALICKI), A., i, 818.

Piper Famechoni. See Agricultural Chemistry.
Piperazine, compound of, with mercuric salts (CHEMISCHE FABRIK AUF AKTIEN), A., i, 349.
Piperic chloride and methyl ester (MEYER), A., i, 31.
Piperidine, critical constants of (GUYE and MALLET), A., ii, 303.
compounds of, with silver haloids (WUTH), A., i, 594.
Piperidine-1-acetic acid, methyl ester, and its compound with benzyl bromide (WEDEKIND), A., i, 233.
Piperidinecarbamic acid, *o*-, *p*-, and *penta*-chlorophenyl, *o*-, *m*-, and *p*-tolyl, eugenyl and thymyl esters (BOUCHETAL DE LA ROCHE), A., i, 562.
ε-Piperidinoamylamine (MANASSE), A., i, 352.
2-Piperidylacetic acid and its salts (KOENIGS and HAPPE), A., i, 394.
Piperonal (*piperonaldehyde*), condensation of, with benzyl methyl ketone (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.
action of zinc and ethyl bromoisobutyrate on (MUSCHINSKY), A., i, 620.
Piperonal (*piperonaldehyde*), *o*-nitro-, action of light on (CIAMICIAN and SILBER), A., i, 434.
Piperonylene-methyl- and **-ethyl-amines** (ANDREE), A., i, 210.
Piperonylidene-*p*-methylacetophenone and its phenylhydrazone (SORGE), A., i, 380.
Piperonylidenenitromethane (BOUVEAULT and WAHL), A., i, 683.
Piperonyl-methyl- and **-ethyl-amines**, and their salts (ANDREE), A., i, 210.
Piperylene. See Pentinene.
Pipette for determining the density of liquids (GIRARDET), A., ii, 5.
Pivalic acid, bromo-, ethyl ester (BLAISE), A., i, 357.
Plagioclase, composition of (TARASSENKO), A., ii, 30; (LOEWINSON-LESSING), A., ii, 147.
Plant ash, estimation of potassium in (BOES), A., ii, 474.
food, determination of available, in soils by the use of weak acid solvents (HALL and PLYMEN), T., 117, P., **1901**, 239, 265.
See also Agricultural Chemistry.
Plants, detection of berberine in (GORDIN), A., ii, 368.
detection of glucosides and sucrose in (BOURQUELOT), A., ii, 55.
estimation of sulphur in (FRAPS), A., ii, 425.
See also Agricultural Chemistry.
Plasteins (KURAÉEFF), A., i, 731.
Platinum, brittle, composition of (HARTLEY), P., **1902**, 30.
diffusion of hydrogen through (WINKELMANN), A., ii, 552.
oxidation phenomenon induced by (TRILLAT), A., ii, 602.
colloidal, intensifying action of, on oxidising agents (SCHAER), A., ii, 140, 603.
action of, on persulphuric acid and its salts (PRICE), A., ii, 204.
Platinum *tetra*iodide (BELLUCCI), A., ii, 267.
*sesqui*oxide (DUDLEY), A., ii, 564.
Platinum, estimation of, in alloys (RICHARDS), A., ii, 701.
Platinum-black, occlusion of oxygen by (ENGLER and WÖHLER), A., ii, 127.
Platinum metals, pulverisation and recrystallisation of (HOLBORN and HENNING), A., ii, 664.
action of sodium peroxide on the (LEIDIÉ and QUENNESSEN), A., ii, 360.
Plumbojarosite from Cook's Peak, New Mexico (HILLEBRAND and PENFIELD), A., ii, 667.
Poison, arrow. See Arrow.
camass. See *Zygadenus venenosus*.
of the tentacles of Cœlenterata. See Hypnotoxin.
of the *Daboia russellii* (LAMB and HANNA), A., ii, 278.
snake, enterokinase in (DELEZENNE), A., ii, 680.
of the golden spider. See Arachnolysin.
of the common toad (PHISALIX and BERTRAND; BERTRAND), A., ii, 576.
of toads (PRÖSCHER), A., ii, 278.
viper, action of, on the blood of dogs and rabbits (PHISALIX), A., ii, 672.
See also Venins.
Poisoning, acid, in dog and rabbit (SPIRO), A., ii, 37.
chronic arsenical, condition of the blood and marrow in (MUIR), A., ii, 37.
by curare, metabolism during (FRANK and VOIT), A., ii, 161.
by phosphorus, fat-transference in (KRAUS and SOMMER), A., ii, 342.
detection of cacodylic acid in cases of (VITALI), A., ii, 161.
detection of phosphorus in cases of (ALESSANDRI), A., ii, 288.
Polarisation. See Electrochemistry and Photochemistry.
Polei, essence of. See *Mentha Pulegium*, essence of.
Polonium in radioactive bismuth (MARCKWALD), A., ii, 508.

Polycarbylamines, aromatic (KAUFLER), A., i, 278.
Polydymite, a variety of (STAHL), A., ii, 87.
Polygonium Persicaria, constituents of (HORST), A., ii, 220.
Polygordius larvæ, effect of various solutions on ciliary and muscular movements in (LILLIE), A., ii, 340.
Polyhydroxylic compounds, partially acetylated (KNOLL & CO.), A., i, 71.
Polyiodides in nitrobenzene solution (DAWSON and GAWLER), T., 524 ; P., **1902**, 69.
Polymerisation of inorganic chloroanhydrides (ODDO), A., ii, 6 ; (CIAMICIAN), A., ii, 123.
Polymethylenecarboxylic acids, synthesis of (ZELINSKY), A., i, 675.
Polymorphism, distinction between, and isomerism (WEGSCHEIDER), A., ii, 126; (BRUNI), A., ii, 448.
Polymyrcene (HARRIES), A., i, 811.
Poplar barks, variations in the occurrence of salicin and salinigrin in different (JOWETT and POTTER), A., ii, 686.
Potable water. See under Water.
Potash bulbs, new design for (TERVET), A., ii, 355.
Potassium, cæsium, and rubidium, spectra of (RAMAGE), A., ii, 637.
transport number for, in phenol (RIESENFELD), A., ii, 594, 595.
Potassium alloys with sodium, melting points of (KURNAKOFF and PUSHIN), A., ii, 136.
Potassium salts, thermochemical action of ammoniacal cupric oxide on (BOUZAT), A., ii, 550.
See also Agricultural Chemistry.
Potassium *per*carbonate, preparation of, and use of, as a substitute for hydrogen peroxide (TREADWELL), A., ii, 206.
chlorate, decomposition of, in presence of the oxides of manganese (SODEAU), T., 1066 ; P., **1902**, 136.
*per*chlorate, poisoning of plants by (JUNGNER), A., ii, 41.
fluoride, molecular compound of, with hydrogen peroxide (TANATAR), A., ii, 11.
fluoroborate, action of hydrogen peroxide on (PETRENKO), A., ii, 317.
fluoropermolybdate, action of hydrogen peroxide on (KASANEZKY), A., ii, 506.
hydride, preparation and properties of (MOISSAN), A., ii, 136.
hydroxide, electrical conductivity of, in glycerol (DI CIOMMO), A., ii 3.
Potassium hydroxide, solubility of, in water (FERCHLAND), A., ii, 318.
N/100, and N/2 alcoholic solution, preparation of (SCHMATOLLA), A., ii, 352.
iodide dissolved in phenol, molecular condition of (RIESENFELD), A., ii, 598.
solubility of, in nitrobenzene containing iodine (DAWSON and GAWLER), T., 529 ; P., **1902**, 69.
decomposition of solutions of, by ozone (GARZAROLLI-THURNLACKH), A., ii, 67.
decomposition of, in the organism by nitrites (STEPANOFF), A., ii, 620.
*nona*iodide, KI_9, probable existence of, in nitrobenzene solution (DAWSON and GAWLER), T., 532 ; P., **1902**, 70.
*per*manganate, action of, on sodium thiosulphate (ÅLANDER), A., ii, 22.
standardisation of, with oxalic acid (THIELE and DECKERT), A., ii, 176.
nitrate, spectrum of (HARTLEY), T., 563 ; P., **1902**, 68.
decrease of the vapour pressure of solutions of (SMITS), A., ii, 123.
estimation of perchlorate in (DUPRÉ), A., ii, 529.
iridium nitrite and double salt with potassium chloride (LEIDIÉ), A., ii, 566.
mercury and zinc nitrites (ROSENHEIM and OPPENHEIM), A., ii, 21.
stannite, action of ethyl iodide on (PFEIFFER), A., i, 749.
sulphate, influence of, on the vapour pressure of aqueous ammonia solution (PERMAN), T., 485 ; P., **1901**, 261.
cobaltous, magnesium, manganous and nickel sulphates, anhydrous (MALLET), T., 1548 ; P., **1902**, 198.
thallium sulphate (PICCINI and FORTINI), A., ii, 607.
uranous sulphate (KOHLSCHÜTTER), A., i, 12.
vanadous sulphate (PICCINI and MARINO), A., ii, 664.
vanadyl sulphates and sulphites (KOPPEL and BEHRENDT), A., ii, 86.
tellurates (GUTBIER), A., ii, 558.
Potassium organic compounds:—
cyanate, preparation of (FRANCESCONI and PARROZZANI), A., i, 140.
cyanide, commercial, composition of (MOORE), A., i, 429.
action of, on cuprous and on mercuric thiocyanate (ITZIG), A., i, 208.

Potassium organic compounds:—
uranyl cyanide (ALOY), A., ii, 145.
thallium chromicyanide, cobalticyanide, and ferro- and ferri-cyanides (FISCHER and BENZIAN), A., i, 272.
ferricyanide, magnetic rotation of (SIERTSEMA), A., ii, 237.
action of oxalic acid on (MATUSCHEK), A., i, 357.
ferri- and ferro-cyanides, estimation of, iodometrically (RUPP and SCHIEDT), A., ii, 535.
ferrocyanide, action of, on oxalic acid (MATUSCHEK), A., i, 272.
titration of, with potassium permanganate (GRÜTZNER), A., ii, 290.
cadmium ferrocyanides (MILLER), A., i, 429.
thiocyanate, double salts of, with bismuth thiocyanate (VANINO and HAUSER), A., i, 14.
cadmium thiocyanate (GROSSMANN), A., i, 663.
Potassium, estimation and separation of:—
estimation of, removal of sulphates before the (ZÖPFCHEN), A., ii, 287.
estimation of, by picric acid (REICHARD), A., ii, 175.
estimation of, as the pyrosulphate (BROWNING), A., ii, 175.
estimation of, in beets, oats, potatoes and plant-ash (BOES), A., ii, 474.
estimation and separation of, in saline mixtures (VAN LEENT), A., ii, 48.
estimation of, in urine (GARRATT), A., ii, 226.
Potatoes, estimation of potassium in (BOES), A., ii, 474.
See also Agricultural Chemistry.
Potato-starch. See Granulose.
Potential. See Electrochemistry.
Praseodymium salts, spectra of, solutions of (LANGLET), A., ii, 189.
Praseodymium chloride and its hydrates (MATIGNON), A., ii, 263.
*di*oxide, action of hypochlorous acid on (MELIKOFF and KLIMENKO), A., ii, 263.
*di*oxide and *per*oxide, and the hydrate of the *per*oxide (KLIMENKO), A., ii, 140.
sulphate, crystalline form of (DUFET), A., ii, 326.
sulphates, acid and basic (MATIGNON), A., ii, 325.
Precipitins, specific (EISENBERG), A., i, 846.
Prehnite in the granulites of Cala Francese (Island of Maddalena, Sardinia) (RIMATORI), A., ii, 668.
Preservatives, test for, in milk (LEACH), A., ii, 113.
Pressure apparatus, constant, for both reduced and increased pressures (INNES), T., 684; P., **1902**, 26.
regulator for vacuum distillation (BURSTYN), A., ii, 313.
Prickly pear, mucilage of the (HARLAY), A., ii, 685.
Propaldehyde-$\beta\beta$-disulphonic acid (DELÉPINE), A., i, 133.
*cyclo***Propane**. See Trimethylene.
Propanedicarboxylic acids. See:—
Dimethylmalonic acid.
Glutaric acid.
Propanesulphonic chloride, amide, and anilide (DUGUET), A., i, 428.
Propanetetracarboxylic acid. See Dicarboxyglutaric acid.
Propanetricarboxylic acids. See:—
Carboxyglutaric acid.
Tricarballylic acid.
*iso***Propenyltrimethylenedicarboxylic acid**. See Isoprenic acid.
Propionamide, α-amino-, hydrobromide (SCHIFF), A., i, 250.
Propionanilide, *o*- and *p-mono*-, 2:4-*di*-, and 2:4:6-*tri*-bromo- (CHATTAWAY), T., 817; P., **1902**, 113.
chloro-derivatives of (CHATTAWAY), T., 639; P., **1902**, 64.
Propionic acid, critical constants of, (GUYE and MALLET), A., ii, 303.
compound of, with nitric acid (PICTET and GENEQUAND), A., i, 584.
Propionic acid, chloromethyl and methylene esters (DESCUDÉ), A., i, 738.
Propionic chloride, β-chloro- (MICHAEL, GRAVES, and GARNER), A., i, 69.
Propionylacetoacetic acid, isomeric esters and copper salt (BONGERT), A., i, 73.
Propionylacetophenone and its methyl derivative (LESER), A., i, 262.
p-**Propionyl-amino-** and **-chloramino-azobenzene** (CHATTAWAY), T., 982; P., **1902**, 174.
Propionyl-anisole, and **-phenetole** (KLAGES), A., i, 609.
Propionylazoimide (*propionylazide*) (HILLE), A., i, 141.
Propionyl-bromo- and **-chloro-aminobenzenes**, bromo-derivatives (CHATTAWAY), T., 816; P., **1902**, 113.
Propionyl-bromo- and **-chloro-aminochlorobenzenes** (CHATTAWAY), T., 639; P., **1902**, 64.
p-**Propionyl***iso***butoxybenzene** and its oxime (KLAGES), A., i, 610.
Propionylbutyryl and its dioxime, α-hydrazone-β-oxime, and phenylhydrazone (PONZIO and BORELLI), A., i, 659.

Propionylhydrazide and its benzylidene and propylidene derivatives (HILLE), A., i, 141.
Propionylindoxyls, 1- and 3- (VORLÄNDER and DRESCHER), A., i, 720.
Propionylmesitylene (KLAGES), A., i, 612.
Propiophenone, condensation of, with ethyl succinates (STOBBE and NIEDENZU), A., i, 460.
n-**Propyl alcohol**, properties of mixtures of, with benzene, and with benzene and water (YOUNG and FORTEY), T., 747 ; P., **1902**, 105.
properties of mixtures of, with water (YOUNG and FORTEY), T., 723 ; P., **1902**, 105.
action of, on its sodium derivative (GUERBET), A., i, 130.
iso-**Propyl alcohol**, properties of mixtures of, with benzene, and with benzene and water (YOUNG and FORTEY), T., 744 ; P., **1902**, 105.
properties of mixtures of, with water (YOUNG and FORTEY), T., 726 ; P., **1902**, 105.
iso-**Propyl***iso*-**amylacetic acid**. See Decoic acid.
n-**Propyl** *iso*-**amyl ketone** and its semicarbazone (BLAISE), A., i, 164.
iso-**Propylbenzene**, α-bromo- (WHEELER and JOHNSON), A., i, 761.
and β-chloro- and β-iodo- (KLAGES), A., i, 667.
iso-**Propyl***iso*-**butylsuccinic acid** (*nonanedicarboxylic acid*) (NEF), A., i, 6.
4-*iso*-**Propyldihydroresorcin** and its silver salt, dioxime, ethyl ether and bromoderivative (CROSSLEY), T., 678 ; P., **1901**, 172 ; **1902**, 86.
4-*iso*-**Propyldihydroresorcylic acid**, ethyl ester (CROSSLEY), T., 676 ; P., **1901**, 172 ; **1902**, 86.
Propylene, action of hypochlorous acid on (HENRY), A., i, 417.
Propylene glycol, oxidation of, by ferments (KLING), A., i, 8.
Propylenedicarboxylic acid. See Glutaconic acid.
Propylenepentacarboxylic acid. See Dicarboxyaconitic acid.
Propylenesulphanilides (AUTENRIETH and RUDOLPH), A., i, 22.
Propylenetetracarboxylic acid. See Dicarboxyglutaconic acid.
Propylenetricarboxylic acids. See Aconitic acids.
β-*iso*-**Propylglutaric acid** (*hexanedicarboxylic acid*) (CROSSLEY), T., 676 ; P., **1901**, 172 ; **1902**, 86.
β-*iso*-**Propylheptoic acid**. See Decoic acid.
3-**Propyl-4-hexylpyrazolone** (LOCQUIN), A., i, 705.
iso-**Propylideneacetone**. See Mesityl oxide.
Propylidenebisacetoacetic acid, ethyl ester (WALLACH and BÖTTICHER), A., i, 798.
β-**Propylidene-***p*-**urazine** (PURGOTTI and VIGANÒ), A., i, 322.
iso-**Propyllævulic acid** and its oxime, phenylhydrazone, and semicarbazone (WALLACH), A., i, 801.
Propylmalonamic acid, ethyl ester (FISCHER and DILTHEY), A., i, 270.
Propyl-ψ-nitrole, constitution of (PILOTY and STOCK), A., i, 734.
4-*iso*-**Propylphenyldihydro-2-picolone-5-carboxylic acid**, ethyl ester (KNOEVENAGEL and BRUNSWIG), A., i, 641.
iso-**Propylsuccinanilic acid** (CROSSLEY), T., 682.
iso-**Propylsuccinic acid** (*pentanedicarboxylic acid*). See Pimelic acid.
iso-**Propyltrimethylenedicarboxylic acid**, and its ethyl ester and salts (IPATIEFF), A., i, 588.
8-*iso*-**Propylxanthine** (BOEHRINGER & SÖHNE), A., i, 125.
Prosecretin (BAYLISS and STARLING), A., ii, 275, 613.
Protalbic acid and its salts (PAAL), A., i, 653.
Protamyrin, **Protelemic acid**, and **Proteleresen** (TSCHIRCH and CREMER), A., i, 813.
Proteid, new, from the brain (ULPIANI and LELLI), A., i, 573.
passage of, through the intestinal wall (COHNHEIM), A., ii, 93.
duodenal digestion of (FERRAI), A., ii, 412.
food, influence of abundant, on metabolism (FRANK and TROMMSDORFF), A., ii, 615.
minimum, the physiological (CREMER and HENDERSON), A., ii, 155.
molecule, the aromatic group of the (DUCCESCHI ; SPIRO), A., i, 192.
solutions, discrimination between basic and acidic functions in (SCHIFF), A., i, 250.
Proteids (JOLLES), A., i, 192.
in Bacteria and Fungi, composition of (IWANOFF), A., ii, 279.
of certain Fungi (WINTERSTEIN and HOFMANN), A., ii, 622.
from yeast (SCHRÖDER), A., i, 730.
synthesis of, in the organism (LOEWI), A., ii, 273.
conditions of the formation of, in plants (ZALEWSKI), A., ii, 348.

Proteids, importance of nitrogen in the synthesis of, in plants (CZAPEK), A., ii, 280.
transformations of, during germination (ANDRÉ), A., ii, 522.
influence of the medium on the properties of (STARKE), A., i, 192.
action of aniline dyes on (HEIDENHAIN), A., i, 651.
action of nascent chlorine on (EHRENFELD), A., i, 511.
action of iodine on (SCHMIDT), A., i, 732.
iodination of, formation and estimation of iodic and hydriodic acids in the (SCHMIDT), A., i, 251 ; ii, 627.
decomposition of (STEUDEL), A., i, 731.
decomposition of, in man, during hard work (JACKSON), A., ii, 156.
bacillus which hydrolyses (EMMERLING and REISER), A., ii, 279.
enzyme which dissolves, in malt (EHRICH), A., i, 252.
physiological and pathological, method of characterising (PATEIN), A., ii, 520.
are, prepared in the usual way, combined with fat or fatty acid ? (POSNER and GIES), A., i, 331, 652.
properties of, combining with acids (v. RHORER), A., i, 651.
compounds of, with metaphosphoric acid (FULD), A., i, 511.
amount of hexone bases in vegetable (SCHULZE and WINTERSTEIN), A., i, 193.
preparation of melanins from (SAMUELY), A., i, 731.
formation of sugar from (LOEW), A., i, 407.
sulphur in (MÖRNER), A., i, 331.
of cow's milk (SIMON), A., ii, 95.
from the muscle of different classes of animals (PRZIBRAM), A., ii, 339.
of smooth muscle (VINCENT), A., ii, 340.
coagulated, solution and estimation of, in fæces (OEFELE), A., ii, 369.
fractional precipitation of, by salts (EFFRONT), A., i, 578.
estimation of sulphur in (OSBORNE), A., i, 250.
estimation of, in urine (HERLANT), A., ii, 295.

Proteids. See also :—
Abrin.
Acid-albumin.
Albumins.
Albumoid.
Albumoses.

Proteids. See :—
Antipeptones.
Atmid keratose.
Atmid keratin.
Casein.
Caseinogen.
Caseoses.
Chitin.
Chondro-albumoid.
Coaguloses.
Collagen.
Cystein.
Cystin.
Egg-albumin.
Elastin.
Fibrin.
Fibroin.
Gelatin.
Globulin.
Gluco-proteids.
Gluten.
Glutinpeptone.
Glyco-albumose.
Hæmins.
Hæmoglobins.
Histon.
Ichthylepidin.
Kephalin.
Keratin.
Lactoserum.
Lecithin.
Melanins.
Mucin.
Mucoids.
Nucleo-histon.
Nucleo-proteid.
Osseo-albumoid.
Peptone.
Plasteins.
Protein.
Proteoses.
Pseudomucin.
Reticulin.
Sericin.
Serum-albumin.
Serum-globulin.
Thio-albumose.
Thyreo-globulin.
Zein.

Protein grains in oleaginous seeds (GRAM), A., ii, 684.
Proteinchromone, spectrum of (BIER and MARCHLEWSKI), A., i, 636.
Proteolysis, acid and physiological (BOKORNY), A., i, 408.
Proteolytic action of venins (LAUNOY), A., ii, 673.
Proteoses (DENNSTEDT), A., i, 128.
separation of, by metallic salts (ČERNY), A., i, 194.
Protista, action of inorganic substances on (GOLDBERGER), A., ii, 675.

Protocatechuic acids, *di*chloro-, affinities of, in relation to their constitution (COPPADORO), A., i, 784.
Protolichesteric acid (ZOPF), A., i, 788.
Protopine from *Dielytra spectabilis* (GADAMER), A., i, 52.
Prunus. See Agricultural Chemistry.
Prussian blue, soluble, preparation of (MATUSCHEK), A., i, 357.
solubility of, under certain conditions (COFFIGNIER), A., i, 664.
estimation of, in spent gas-purifying material (BERNHEIMER and SCHIFF), A., ii, 361.
Prussic acid. See Hydrocyanic acid under Cyanogen.
Pseudo-acids, characterisation of (HANTZSCH and VOEGELEN), A., i, 260; (MULLER), A., i, 354.
characterisation of, by the abnormal relationship of their affinity constants and hydrolysis of their salts (HANTZSCH and BARTH), A., i, 222.
characterisation of, by the ammonia reaction (HANTZSCH and DOLLFUS), A., i, 223, 675.
Pseudocatalysis. See Affinity.
Pseudogaylussite (TRECHMANN), A., ii, 89.
Pseudomesolite from Minnesota (WINCHELL), A., ii, 462.
Pseudomucin (NEUBERG and HEYMANN), A., i, 511.
Pseudophite, formation of, in granitic rocks (STADLINGER), A., ii, 90.
Pseudotsuga taxifolia, wood tar of (BYERS and HOPKINS), A., i, 738.
Ptilolite, variety of, from the Island of Principe Rodolfo (COLOMBA), A., ii, 668.
Ptomaines in urine in infectious diseases (NICOLA), A., ii, 679.
Pulegene and its nitrosochloride (WALLACH and COLMANN), A., i, 724.
nitrolepiperidide and **Pulegenone** and its oxime (WALLACH and THEDE), A., i, 724.
Pulegenic acid and its anilide and *p*-toluidide, and isomerides (BOUVEAULT and TÉTRY), A., i, 420.
Pulegolacetic acid, ethyl ester (TÉTRY), A., i, 585.
Pulegone, oxidation of (SPERANSKI), A., i, 384.
Pulenene and its nitrosochloride, **Pulenol**, and **Pulenone** and its oximes (WALLACH and RAHN), A., i, 724.
Purine bases, production of uric acid from (KRÜGER and SCHMID), A., ii, 415.
derivatives in human fæces (KRÜGER and SCHITTENHELM), A., ii, 412.
Purine derivatives, oxidation of (PLOT), A., i, 139.
rôle of, in human metabolism (BURIAN and SCHUR), **A.**, ii, 33; (LOEWI), A., ii, 157.
substances in articles of diet (HALL), A., ii, 465.
Purple wood, dye from (KLEEREKOPER), A., i, 48, 111.
Purpurogallin and its **-carboxylic acid**, tetra-acetyl, tribenzoyl, and dibromo-derivatives (PERKIN and STEVEN), P., **1902**, 74.
trimethyl ether and its acetyl derivative (PERKIN and STEVEN), P., **1902** 253.
Purpurogallone and *iso***Purpurogallone** (PERKIN and STEVEN), P., **1902**, 254.
Pyrantin (*p-ethoxyphenylsuccinimide*), and its alkyl substituted derivatives, stability of (GILBODY and SPRANKLING), T., 793; P., **1900**, 224.
Pyrazole, $C_{17}H_{28}O_2N_2$, from the action of hydrazine hydrate on 4:6-diacetyl-5-phenyl-3-methylcyclohexane-3-ol-1-one (RABE and ELZE), A., i, 711.
Pyrazole, 4-amino-, and its nitrate and benzoyl derivative (WOLLERS and BEHREND), A., i, 844.
Pyrazole-4-carboxylic acid from 4-phenylpyrazole (BEHAGHEL and BUCHNER), A., i, 236.
Pyrazole-5-(or 3-)carboxylic acid (BUCHNER and HACHUMIAN), A., i, 237.
Pyrazolones, $C_{12}H_{16}O_4N_2$, $C_{17}H_{19}O_6N_3$, and $C_{17}H_{20}O_4N_2$ from cyclohexanolones (RABE and ELZE), A., i, 710.
Pyrazolone-3-acetic acid and its acetyl and 4-isonitroso-derivatives and their azoimides and hydrazides (KUFFERATH), A., i, 58.
Pyridazine, $C_{32}H_{24}N_2$, from desyl-β-acetonaphthone and phenylhydrazine (SMITH and MCCOY), A., i, 645.
Pyridazines (POPPENBERG), A., i. 60; (OPPENHEIM), A., i, 186.
Pyridazyl-3-*p*-benzoic acid (KATZENELLENBOGEN), A., i, 122.
Pyridine from Scottish shale oil (GARRETT and SMYTHE), T., 451; P., **1900**, 190; **1902**, 47.
and its derivatives, velocity of combination of, with alkyl bromides (MENSCHUTKIN), A., ii, 493.
latent heat of vaporisation of (KAHLENBERG), A., ii, 195.
action of benzyl chloride and iodide on (TSCHITSCHIBABIN), A., i, 395.
action of, on tetrachloroquinone (IMBERT), A., i, 55, 117.
action of diphenylbromomethane on (TSCHITSCHIBABIN), A., i, 395.

Pyridine, action of triphenyl-bromo- and -chloro-methane and triphenylcarbinol on (TSCHITSCHIBABIN), A., i, 395.
compounds of, with antimony haloids (ROSENHEIM and STELLMANN), A., i, 68.
compounds of, with antimony, manganese and tin haloids (HAYES), A., i, 492.
compounds of, with bismuth iodide (VANINO and HAUSER), A., i, 308.
compounds of, with copper thiocyanates (LITTERSCHEID), A., i, 308.
compounds of, with phenols (v. BAEYER and VILLIGER), A., i, 356.
compound of, with quinol, and its salts (ORTOLEVA and DI STEFANO), A., i, 54; (ORTOLEVA), A., i, 674.
compound of, with silver chloride (RENZ), A., i, 563.
compounds of, with thallic haloids (RENZ), A., i, 393.
compound of, with quadrivalent titanium thiocyanate (ROSENHEIM and COHN), A., ii, 26.
derivatives, condensation of, with formaldehyde (KOENIGS), A., i, 179, 180.
carbamide, phenylcarbamide, and thiocarbamide derivatives of (CAMPS), A., i, 824.
ferrous chloride (PFEIFFER), A., i, 175.
picryl chloride (WEDEKIND), A., i, 740.
silver trisulphimide (HANTZSCH and HOLL), A., ii, 15.
Pyridine, 2-amino-, aurichloride (MEYER), i, 728.
isomeric amino- and their acetyl derivatives, *di*bromoamino- and bromo-2-amino- (CAMPS), A., i, 824.
2-cyano-, and its auri- and platinichlorides (MEYER), A., i, 727.
Pyridine-2-carboxylic acid. See Picolinic acid.
Pyridine-3-carboxylic acid. See Nicotinic acid.
Pyridine-4-carboxylic acid. See *iso*-Nicotinic acid.
Pyridinecarboxylic acids, preparation of (CAMPS), A., i, 824.
Pyridinecholine, action of acetic and benzoic chlorides on (SCHMIDT and LITTERSCHEID), A., i, 308.
Pyridine-2:3-dicarboxylic acid. See Quinolinic acid.
Pyridine series, desmotropism in the (ERRERA), A., i, 115.
Pyridine-3:4:5-tri- and -penta-carboxylic acids (WOLFF, GABLER, and HEYL), A., i, 677.
Pyridoylacetic acids, 2- and 4-, and their esters and salts (PINNER, DONCHI, DREXLER, and BAY), A., i, 176.
2-Pyridoylaminocrotonic acid, ethyl ester (PINNER, DONCHI, DREXLER, and BAY), A., i, 176.
2-Pyridoylethylacetic acid, ethyl ester (PINNER, DONCHI, DREXLER, and BAY), A., i, 176.
Pyridoyl-1-phenylpyrazolones, 3-*α*- and -*γ*- (PINNER, DONCHI, DREXLER, and BAY), A., i, 176.
***β*-2-Pyridoylpropionic acid**, ethyl ester (PINNER, DONCHI, DREXLER, and BAY), A., i, 176.
Pyridylacrylic acid (FEIST), A., i, 492.
2-Pyridyl-*α*- and -*β*-bromopropionic acids and their auribromides (FEIST), A., i, 492.
4-Pyridyl butyl ketone and its picrate (PINNER, DONCHI, DREXLER, and BAY), A., i, 178.
Pyridylchlorohydroxyquinolsulphonic acid (IMBERT), A., i, 55.
Pyridyl*di*chlorohydroxy-quinone and -quinol sulphate (IMBERT), A., i, 55.
Pyridyl*tri*chlorotriketopentamethylene hydrochloride (IMBERT), A., i, 117.
Pyridyl cyanides, isomeric (CAMPS), A., i, 823.
3-Pyridylglycine-4-carboxylic acid and its salts (GABRIEL and COLMAN), A., i, 841.
2-Pyridylmethylcarbinol, salts of (PINNER, DONCHI, DREXLER, and BAY), A., i, 176.
Pyridyl methyl, ethyl, and propyl ketones, 2- and 4-, their salts (PINNER, DONCHI, DREXLER, and BAY), A., i, 176.
2-Pyridyl phenethyl ketone and its salts (PINNER, DONCHI, DREXLER, and BAY), A., i, 176.
2-Pyridylpropanediol and its salts (KOENIGS and HAPPE), A., i, 394.
2-Pyridyl-*β*-propionic acid and its aurichloride (FEIST), A., i, 492.
Pyridyltruxillic acids and their additive salts (FEIST), A., i, 492.
Pyridylurethanes (CAMPS), A., i, 825.
Pyrimidine and its 2:4:6-*tri*- and *tetra*-amino- and 5-nitro-2:4:6-*tri*amino-derivatives (GABRIEL), A., i, 59.
and its bromo-, chloro-, and chloroiodo-derivatives (OPPENHEIM), A., i, 187.
Pyrimidines, methylated (GABRIEL and COLMAN), A., i, 498; (SCHMIDT), A., i, 499.
Pyrimidine-4:6-dicarboxylic acid and its salts (ANGERSTEIN), A., i, 123.

Pyrindanedionecarboxylic acid, methyl ester, and its oxime and salts (BITTNER), A., i, 494.
Pyrites (*iron pyrites*) and marcasite, discrimination between, and estimation of, in mixtures (STOKES), A., ii, 87.
estimation of copper in (HAAS), A., ii, 229.
estimation of sulphur in (AUZENAT), A., ii, 104; (LUNGE), A., ii, 287; (REITLINGER), A., ii, 692.
Pyritic residues, analysis of (MINOZZI), A., ii, 358.
Pyrodypnopinacolin, Pyrodypnopinacol alcohol and **Pyrodypnopinalcolene** (DELACRE), A., i, 774.
Pyrogallol, absorption spectra of (HARTLEY, DOBBIE, and LAUDER), T., 933; P., **1902**, 172.
etherification of (HIRSCHEL), A., i, 540.
auto-oxidation of (HARRIES), A., i, 771.
alkaline, heat developed by the action of oxygen on (BERTHELOT), A., ii, 4.
Pyrogallol diethyl ether, bromo- (HIRSCHEL), A., i, 540.
Pyrogallol triethyl ether and its **sulphonic acid** and bromo- and bromonitro-derivatives (HIRSCHEL), A., i, 540.
Pyrogallolaldehydeaniline and its salts (DIMROTH and ZOEPPRITZ), A., i, 294.
Pyrogenic reactions of organic compounds (LÖB), A., i, 3; (IPATIEFF), A., i, 4, 335.
Pyromeconic acid, tautomerism of (PERATONER), A., i, 421.
Pyromeconic acid, nitroso-, isomeric phenylhydrazones, phenylosazones, and osotetrazones of (PERATONER), A., i, 421.
Pyromeconyl ethyl ether (OLIVERI-TORTORICI), A., i, 302.
Pyromucic acid, action of phosphorus pentachloride or oxychloride on (CHAVANNE), A., i, 637.
azoimide and hydrazide of, and the acyl and benzylidene and propylidene derivatives of the hydrazide (CURTIUS and LEIMBACH), A., i, 302.
Pyromucic acid, δ-nitro-, and its aniline and *p*-toluidine esters (HILL and WHITE), A., i, 388.
*iso***Pyromucic acid,** action of phosphorus pentachloride or oxychloride on (CHAVANNE), A., i, 637.
acyl derivatives of (CHAVANNE), A., i, 690.
Pyromucylurethane, hydrolysis of (CURTIUS and LEIMBACH; MARQUIS), A., i, 302.
Pyrone platinichloride (WERNER), A., i, 686.
Pyrophosphoric acid. See under Phosphorus.
Pyrophyllite from North Carolina (PRATT), A., ii, 407.
Pyroracemic acid. See Pyruvic acid.
n-**Pyrotartaric acid.** See Glutaric acid.
Pyroxene. See Augite.
Pyrro-$\alpha\beta'$-diazole. See 1:2:4-Triazole.
Pyrrole, mechanism of the formation of, from salts of mucic acid (PICTET and STEINMANN), A., i, 562.
condensation products of (PLANCHER), A., i, 640.
conversion of, into pyrroline (CIAMICIAN), A., i, 115.
and its derivatives, physiological action of (TUNNICLIFFE and ROSENHEIM), A., i, 681.
Pyrrole, chloro-derivatives (MAZZARA), A., i, 820.
Pyrrole derivatives, formation of, from isonitrosoketones (KNORR and LANGE), A., i, 821.
test for nitrogen in, by Lassaigne's method (KEHRER), A., i, 530.
Pyrroles, electrolytic reduction of (DENNSTEDT), A., i, 488.
condensation of, with aromatic aldehydes (FEIST), A., i, 490; (VORLÄNDER), A., i, 562.
preparation of indoles from (DENNSTEDT), A., i, 396.
transformation of, into pyrrolines (KNORR and RABE), A., i, 54.
Pyrrole-2-carboxylic acid, azoimide and hydrazide of (PICCININI and SALMONI), A., i, 491.
Pyrrolecarboxylic acids, esters, condensation of, with aromatic aldehydes (FEIST), A., i, 490; (VORLÄNDER), A., i, 562.
Pyrrole group, studies in the (FEIST), A., i, 488, 489, 490; (KEHRER), A., i, 562.
Pyrrolidine, physiological action of (TUNNICLIFFE and ROSENHEIM), A., ii, 681.
2-Pyrrolidinecarboxylic acid, formation of, by the alkaline hydrolysis of casein (FISCHER), A., i, 640.
Pyrrolidine ring, formation of the (WILLSTÄTTER and ETTLINGER), A., i, 233.
Pyrrolidines, amino- (PAULY), A., i, 559.
Pyrroline and its salts (KNORR and RABE), A., i, 54.

Pyrroline, formation of, from pyrrole (CIAMICIAN), A., i, 115.
hydrochloride, physiological action of (TUNNICLIFFE and ROSENHEIM), A., ii, 681.
Pyrrolines, preparation of, from pyrroles (KNORR and RABE), A., i, 54.
2-Pyrrylurethane, and its acetyl and nitroso-derivatives (PICCININI and SALMONI), A., i, 491.
Pyruvic acid, electrolytic oxidation of (ROCKWELL), A., i, 740.
action of carbamide and semicarbazide on (SIMON), A., i, 15.
action of hydrochloric acid on (DE JONG), A., i, 122.
action of urethane on (SIMON), A., i, 14.
conversion of, into methylpyruvic acid (ERLENMEYER), A., i, 595.
transformation of salts of, and its estimation (DE JONG), A., i, 72.
Pyruvylphenylhydrazonehydroxamic acid and its salts and acetyl derivative (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1573.
Pyruvylpyruvic acid, ethyl ester, derivatives of (SIMON), A., i, 422.

Q.

Quercetagetin, and its sulphate, potassium salt and acetyl compound (PERKIN), P., **1902**, 75.
Quercetin tetramethyl and tetraethyl ethers, constitution of (PERKIN and ALLISON), T., 471.
Quinaldine, action of anisaldehyde on (BIALON), A., i, 828.
Quinaldyl-*p*-methyl- and **-*p-iso*propyl-α-stilbazole** and **-α-stilbazoline** and their additive salts (v. GRABSKI), A., i, 563.
Quinaldyl-α-stilbazoline and its hydrochloride and benzoyl derivative (v. GRABSKI), A., i, 564.
Quinanthrene, thio-, tetranitrate and disulphate, and hydrochloride of the acetyl compound (EDINGER and EKELEY), A., i, 231.
Quinidine, action of sulphurous acid on (KOENIGS and SCHÖNEWALD), A., i, 818.
new reaction for (HIRSCHSOHN), A., ii, 710.
Quinine, action of sulphurous acid on (KOENIGS and SCHÖNEWALD), A., i, 818.
oxidation of, by chromic acid (GOLDBERG), A., ii, 485.
new reaction for (HIRSCHSOHN), A., ii, 710.
Quinine, acyl derivatives of (VEREINIGTE CHININFABRIKEN ZIMMER & Co.), A., i, 486.
ethyl carbonate (VEREINIGTE CHININFABRIKEN ZIMMER & Co.), A., i, 392, 416.
Quininecarbamide (VEREINIGTE CHININFABRIKEN ZIMMER & Co.), A., i, 486.
Quinizarin, reduction of, with hydrogen iodide (PLEUS), A., i, 773.
Quinizarin-blue, bromo- (FARBENFABRIKEN VORM. F. BAYER & Co.), A., i, 477.
Quinol and azoxyanisole, behaviour of a mixture of, on cooling (ROOZEBOOM), A., ii, 490.
compound of, with pyridine, and its salts (ORTOLEVA and DI STEFANO), A., i, 54; (ORTOLEVA), A., i, 674.
Quinol *p*-azoxydiphenyl and ***p*-azodiphenyl ethers** (HAEUSSERMANN and SCHMIDT), A., i, 126.
ψ-Quinols (AUWERS), A., i, 217.
history of, and the action of hydrazine bases on (BAMBERGER), A., i, 509.
Quinoline and its derivatives, velocity of combination of, with alkyl bromides (MENSCHUTKIN), A., ii, 493.
compounds of, with antimony haloids (ROSENHEIM and STELLMANN), A., i, 68.
compounds of, with bismuth iodide (VANINO and HAUSER), A., i, 308.
compounds of, with copper thiocyanates (LITTERSCHEID), A., i, 829.
compounds of, with phenols (v. BAEYER and VILLIGER), A., i, 356.
compound of, with silver chloride (RENZ), A., i, 563.
compounds of, with silver haloids (WUTH), A., i, 594.
compounds of, with thallic haloids (RENZ), A., i, 393.
compound of, with quadrivalent titanium thiocyanate (ROSENHEIM and COHN), A., ii, 26.
derivatives, condensation of, with formaldehyde (KOENIGS; KOENIGS and BISCHKOPF; KOENIGS and STOCKHAUSEN), A., i, 179.
Quinoline, 5-7-*di*iodo-, and its methiodide and methochloride (WILLGERODT and ARNOLD), A., i, 16.
***iso*Quinoline**, compounds of, with copper thiocyanates (LITTERSCHEID), A., i, 829.
benzyl iodide (WEDEKIND and OECHSLEN), A., i, 118.
8-Quinolinealdehyde and its platinicloride (HOWITZ), A., i, 397.

Quinolinic acid, dihydroxyfluorescein of (LIEBERMANN and WÖLBLING), A., i, 547.

Quinone, $C_{10}H_6O_4$, and its diacetate, from the oxidation of the base from the dye formed by 2:3:8-trihydroxynaphthalene and diazotised sulphanilic acid (FRIEDLÄNDER and SILBERSTERN), A., i, 795.

$C_{20}H_{10}O_7$ (?), from the oxidation of 1-amino-2:3-dihydroxynaphthalene (FRIEDLÄNDER and SILBERSTERN), A., i, 794.

Quinone, action of alcohols on (KNOEVENAGEL and BÜCKEL), A., i, 106.

action of nitric acid on (SESTINI), A., i, 548.

*di*chlorodiimide, chloro- (COHN), A., i, 442.

Quinone, *tetra*chloro-, from pentachlorophenol (BARRAL), A., i, 367.

action of pyridine on (IMBERT), A., i, 55, 117.

o-**Quinone**, compound of, with pyridine hydriodide, and its acetyl derivative (ORTOLEVA), A., i, 674.

o-**Quinoneoxime**. See Phenol, *o*-nitroso-.

Quinophthalone, isomeride of, and its dibromo-derivative (EIBNER and MERKEL), A., i, 644.

bromo-derivatives (EIBNER and MERKEL), A., i, 494.

*iso***Quino-β-pyridine** and 6-chloro-, and their salts (MARCKWALD and DETTMER), A., i, 235.

Quinoxalo-αβ-naphthazine (HINSBERG), A., i, 239.

R.

Rabbits, acid poisoning in (SPIRO), A., ii, 37.

Racemic amino-acids, resolution of (FISCHER and HAGENBACH), A., i, 85.

compounds, existence of, in solution (BRUNI and PADOA), A., i, 343.

Racemisation, catalytic, of amygdalin (WALKER), P., **1902**, 198.

Radiations, Radioactive substances, and **Radioactivity**. See Photochemistry.

Radicles, unsaturated, the negative nature of (VORLÄNDER), A., i, 309; ii, 250, 496; (HENRICH), A., ii, 449; (WEDEKIND), A., i, 739.

Radium, atomic weight of (CURIE), A., ii, 562.

chemical effects of radiations from (BERTHELOT), A., ii, 136; (BECQUEREL) A., ii, 57.

Radium, condensation point of emanations from (RUTHERFORD and SODDY), P., **1902**, 219.

new gas from (RUTHERFORD and BROOKS), A., ii, 438.

Radium salts, induced radioactivity excited by (CURIE and DEBIERNE), A., ii, 58.

Raffinose (*melitose*, *melitriose*), estimation of (REINHARDT), A., ii, 362.

Rain-water. See Agricultural Chemistry.

Raspberry juice or **syrup**, analysis of (SPAETH), A., ii, 110.

Rate of reactions. See Affinity.

Ratio of distribution. See Affinity.

Rays. See Photochemistry.

Red rain. See under Water.

Reducing action of some nitro-compounds (VIGNON and GERIN), A., i, 9.

Reductases (POZZI-ESCOT), A., i, 655; ii, 635.

Reduction-potential. See Electrochemistry.

Refraction and **Refractometer**. See Photochemistry.

Rennet and antirennet (KORSCHUN), A., ii, 673.

presence of, in plants (JAVILLIER), A., ii, 625.

coagulation of casein by (MÜLLER), A., i, 409.

Rennin, formation and secretion of (WINOGRADOFF), A. ii, 36.

action of, on albumoses and caseoses (KURAÉEFF), A., i, 731.

action of, on milk (FULD), A., ii, 415.

Resacetophenone, action of formaldehyde on (GOLDSCHMIDT), A., i, 716.

Residual affinity. See Affinity.

Resins of copaiva balsams (TSCHIRCH and KETO), A., i, 166.

of *Dammara orientalis* (TSCHIRCH and KOCH), A., i, 478.

from green ebony (PERKIN and BRIGGS), T., 219; P., **1902**, 12.

from *Picea vulgaris* (TSCHIRCH and KOCH), A., i, 551.

rassamala (TSCHIRCH and VAN ITALLIE), A., i, 111.

amount of, in tobacco leaves at various periods of their growth (KISSLING), A., ii, 625.

solubility of some fresh (COFFIGNIER), A., i, 633.

estimation of, in wax (JEAN), A., ii, 185.

See also Balsams.

Resins. See also:—

Afeleresen.

Colophony.

Dammar resin.

Resins. See:—
Elemi.
Mancopaloresen.
Maneleresen.
Mastic resin.
Picoresen.
Proteleresen.
Sandarac resin.
Storax.
Storesinol.
Styresinol.
Yuceleresen.
Resorcinaldehydeaniline and its hydrochloride (DIMROTH and ZOEPPRITZ), A., i, 293.
Resorcinol (1:3-*dihydroxybenzene*), condensation of, with phenylacetylacetophenone (BÜLOW and GROTOWSKY), A., i, 484.
monomethyl ether, action of nitrous acid on (HENRICH and RHODIUS), A., i, 447.
diethyl and dimethyl ethers. See 1:3-Diethoxybenzene and 1:3-Dimethoxybenzene.
Resorcinol, 4:2-chloronitro-, and its 1-methyl ether and dibenzoate (MELDOLA and EYRE), T., 999.
Resorcinolazodiphenyl aminesulphoxide (KEHRMANN and VESELÝ), A., i, 570.
Resorcinolmercury salts (DIMROTH), A., i, 850.
Respiration of an atmosphere rich in oxygen, influence of the (FALLOISE), A., ii, 149.
physical and chemical phenomena of, at high altitudes during a balloon ascent (TISSOT and HALLION; VALLOT), A., ii, 92.
plant. See Agricultural Chemistry.
Respiratory centre, carbon dioxide as an excitant of the (RULOT and CUVELIER), A., ii, 150.
Respiratory exchange during the deposition of fat (PEMBREY), A., ii, 149.
of man, effect of decompression on the (TISSOT), A., ii, 570.
influence of occlusion of the descending aorta on (RULOT and CUVELIER), A., ii, 149.
Respiratory value of coelomic fluid in certain Invertebrates (CUÉNOT), A., ii, 215.
Reticulin and collagen (TEBB), A., ii, 218; (SIEGFRIED), A., ii, 517.
Retinite from Thessaly (ZENGELIS), A., ii, 28.
Rhamnazin and **Rhamnetin**, constitution of (PERKIN and ALLISON), T., 469.
Rhamnitol *penta*nitrate (VIGNON and GERIN), A., i, 10.
Rhamnonic acid, degradation of (RUFF and KOHN), A., i, 590.
Rhamnose, value of, in the organism (CREMER), A., ii, 154.
i-**Riboketosephenylmethylosazone** (NEUBERG), A., i, 661.
Ricin immunity (JACOBY), A., ii, 680.
Rigor mortis, effect of solutions of various electrolytes and non-conductors on (MOORE), A., ii, 340.
Ring compounds, carbon, formation of (KÖTZ and SPEISS), A., i, 12.
magnetic rotation of (PERKIN), T., 292; P., **1902**, 28.
Ring formation by means of magnesium organic compounds (ZELINSKY and MOSER), A., i, 670.
influence of the methyl group on (GILBODY and SPRANKLING), T., 787; P., **1900**, 224.
Ringworm fungus. See *Microsporon audouini*.
River water. See under Water.
Robinin and its colouring matter (PERKIN), T., 473; P., **1901**, 87.
Rock, new name. See Mariupolite.
Röntgen rays. See Photochemistry.
Roots. See Agricultural Chemistry.
Rosamine group, colouring matters of the (LIEBERMANN), A., i, 636.
Rotation. See Photochemistry.
Roumanite from the Black Sea (ISTRATI), A., ii, 567.
Rubber wares, analysis of (HEINTZ), A., ii, 369; (FRANK and MARCKWALD), A., ii, 484.
Rubidium, cæsium, and potassium, spectra of (RAMAGE), A., ii, 637.
Rubidium ruthenichlorides and oxyruthenichlorides (HOWE), A., ii, 86.
phosphates (V. BERG), A., ii, 136.
magnesium and manganous sulphates, anhydrous (MALLET), T., 1549; P., **1902**, 198.
thallium sulphate (PICCINI and FORTINI), A., ii, 607.
tellurate and hydrogen selenate and tellurate (NORRIS and KINGMAN), A., ii, 15.
Rubidium cadmium thiocyanate (GROSSMANN), A., i, 663.
thiocyanate (GROSSMANN), A., i, 663.
Rubidium, estimation of, as the hydrogen sulphate (BROWNING), A., ii, 175.
Rue, oil of, constituents of (POWER and LEES), T., 1585; P., **1902**, 192.
Algerian (v. SODEN and HENLE), A., i, 301.
Rufigallic acid (PERKIN), P., **1902**, 254.

Ruminants. See Agricultural Chemistry.
Ruscus aculeatus. See Agricultural Chemistry.
Ruthenium chlorides with cæsium and rubidium (HOWE), A., ii, 86.
Rye. See Agricultural Chemistry.

S.

Sabinene alcohol (SEMMLER), A., i, 550.
Sabinenol- and **Sabinol-glycuronic acids** (FROMM and HILDEBRANDT), A., ii, 160.
*iso***Saccharic acid**, degradation of (RUFF, MEUSSER, and FRANZ), A., i, 591.
"**Saccharin**," preparation of (BASLER CHEMISCHE FABRIK), A., i, 96.
Saccharose. See Sucrose.
Sacculina and crab, comparison of the organic liquids of the (BRUNTZ and GAUTRELET), A., ii, 676.
Safrole and *iso***Safrole**, oxidation of, by mercuric acetate (BALBIANO, PAOLINI, and LUZZI), A., i, 809.
*iso***Safrole** *di*bromide and bromo-, action of methyl and ethyl alcohols on (POND, ERB, and FORD), A., i, 450.
Sage, oil of, German, salvene from (SEYLER), A., i, 229.
Salicin and **Salinigrin**, variation in the occurrence of, in different poplar and willow barks (JOWETT and POTTER), A., ii, 686.
Salicylaldehydeaniline and its hydrochloride (DIMROTH and ZOEPPRITZ), A., i, 293.
Salicylglycollic acid and its salts (KNOLL & CO.), A., i, 373.
Salicylanilide (LAMBLING), A., i, 756.
Salicylbenzamide (TITHERLEY), T., 1533; P., **1902**, 187.
Salicylhydroxamic acid, ferric salt (HANTZSCH and DESCH), A., i, 709.
Salicylic acid, occurrence of, in natural wines (WINDISCH), A., ii, 707.
presence of, in strawberries (PORTES and DESMOULIÈRE), A., ii, 40.
new process for the detection and estimation of (PELLET), A., ii, 56.
detection of, in foods (TAFFE), A., ii, 292.
Salicylic acid, salts, solubilities of (TARUGI and CHECCHI), A., i, 204.
bismuth salt (THIBAULT), A., i, 290.
Salicylic acid, glyceryl ester (TÄUBER), A., i, 370.
methyl ester, phenylurethane of (LAMBLING), A., i, 756.
Salicylic acid, 4-amino- and 4- and 5-nitro- (SEIDEL and BITTNER), A., i, 719.
Salicylic acid, 5-*mono*- and 3:5-*di*-bromo-, acetyl derivatives (ROBERTSON), T., 1481; P., **1902**, 190.
4- and 6-chloro- (COHN), A., i, 64.
See also Hydroxybenzoic acids.
*iso***Salicylic acid** and *di*bromo- (BRUNNER), A., i, 452.
Salicylidenephenylacetylhydrazide (BOETZELEN), A., i, 58.
Salicylidene*di***thio-***p***-urazine** (PURGOTTI and VIGANÒ), A., i, 323.
Salicylidene-*p***-urazine** (PURGOTTI and VIGANÒ), A., i, 322.
Salicylylquinidine (VEREINIGTE CHININFABRIKEN ZIMMER & CO.), A., i, 486.
Saligenin, *di*bromo-, acetyl derivative (STEPHANI), A., i, 148.
Saliva, dog's submaxillary, osmotic pressure of (NOLF), A., ii, 152.
Saltpetre. See Potassium nitrate.
Salts, electrolysis of fused (LORENZ), A., ii, 591, 640; (BODLÄNDER), A., ii, 640.
acids, and bases, dissociation of, at different temperatures (JONES and DOUGLAS), A., ii, 59.
neutral, dissociation of (ARNDT), A., ii, 62.
acid, and sparingly soluble, chemical equilibria between (MAGNANINI and GRIMALDI), A., ii, 249.
analogous, solubility of (RABE), A., ii, 491.
molecular concentration of solutions of albumin and (FREDERICQ), A., i, 646.
influence of, on heart muscle (HOWELL), A., ii, 94.
Salt vapours, laws of electrolysis of (WILSON), A., ii, 640.
Salvene from German oil of sage (SEYLER), A., i, 229.
Samarium chloride, anhydrous (MATIGNON), A., ii, 505.
sulphate, crystalline form of (DUFET), A., ii, 326.
Sambucus racemosa var. arborescens. See Elderberry, red.
Sandalwood oil, West Indian, constituents of (DEUSSEN), A., i, 552.
Sandarac resin, solubility of (COFFIGNIER), A., i, 633.
Santonin, constitution of (FRANCESCONI and VENDETTI), A., i, 546.
test for, in urine (CROUZEL), A., ii, 544.
yellow. See Chromosantonin.
Santonin hydrazide and semicarbazone, and its *di*chloro- and *per*nitroso-derivatives (FRANCESCONI and ANGELUCCI), A., i, 35.

Santonin:—
Desmotropo-santonin and **-santonous acid**, action of diazo-salts on (WEDEKIND and SCHMIDT), A., i, 699.
Saponarin, a glucoside from Saponaria (BARGER), A., i, 387.
Sausages, estimation of glycogen and starch in (MAYRHOFER), A., ii, 180.
Scatocyanin (SCHUNCK), A., i, 301.
Scatole-red from urine (RÖSSLER), A., i, 49.
Scheelite from Maderanerthal, Switzerland (SCHMIDT), A., ii, 511.
Schertalite in Australian bat guano (MACIVOR), A., ii, 460.
Schneebergite (KOECHLIN), A., ii, 331.
i-**Scopolamine** from atroscine (KUNZ-KRAUSE), A., i, 174.
Scrophulariaceæ, examination of some (ROSENTHALER), A., ii, 282.
Scutellarein, and **Scutellarin** and its acetyl derivative (MOLISCH and GOLDSCHMIEDT), A., i, 48.
Sea water. See under Water.
Secretin (BAYLISS and STARLING), A., ii, 275, 613; (CAMUS), A., ii, 614.
action of, on the pancreas (BAYLISS and STARLING), A., ii, 613; (HERZEN and RADZIKOWSKI), A., ii, 614.
Secretions, influence of choline on (DESGREZ), A., ii, 574.
Seeds. See Agricultural Chemistry.
Selachian heart, toxicological studies on the (STRAUB), A., ii, 161.
Selenium, atomic weight of (MEYER), A., ii, 392, 605.
boiling point of (BERTHELOT), A., ii, 378.
sexavalency of, and asymmetric optically active compounds of (POPE and NEVILLE), T., 1552; P., **1902**, 198.
mixed crystals of sulphur and (RINGER), A., ii, 651.
liquid hydrosol of (GUTBIER), A., ii, 610, 652.
compounds of, with phosphorus (MEYER), A., ii, 393.
and its compounds, toxicology of (WOODRUFF and GIES), A., ii, 278.
Selenium compounds, decomposition of, by moulds (ROSENHEIM), P., **1902**, 138.
Selenium hydride. See Hydrogen selenide.
Selenides, action of hydrogen on (PÉLABON), A., ii, 253.
Selenic acid, action of, on gold (LENHER), A., ii, 402.
Selenates, isomorphism of tellurates and (NORRIS and KINGMAN), A., ii, 15.
Selenium:—
Selenious acid, behaviour of, in the Marsh apparatus (SCHINDELMEISER), A., ii, 693.
Selenium, detection of, in presence of arsenic and tellurium, by the action of Fungi and Bacteria (MAASSEN), A., ii, 629.
estimation of, volumetrically (FRIEDRICH), A., ii, 693.
Selenyl chloride, action of, on erythritol (CHABRIÉ and JACOB), A., i, 657.
Semen, human (SLOWTZOFF), A., ii, 574.
Semen coccognidii, fatty oil of (PETERS), A., ii, 282.
Semicarbazide, action of, on benzil (POSNER), A., i, 82; (BILTZ and ARND), A., i, 245.
action of, on diacetyl (DIELS), A., i, 205.
action of, on pyruvic acid (SIMON), A., i, 15.
Semicarbazides, aromatic, pharmacodynamic properties of certain (A. and L. LUMIÈRE and CHEVROTIER), A., ii, 681.
Semicarbazones, new reaction of (BORSCHE), A., i, 186.
Semithiocarbazide as a reagent for the identification of aldehydes and ketones (NEUBERG and NEIMANN), A., i, 572; (FREUND and SCHANDER), A., i, 696.
Serendibite from Gangapitiya, Ceylon (COOMÁRA-SWÁMY), A., ii, 568.
Sericin (BONDI), A., i, 579.
Serine and *iso***Serine** and their phenylcarbimides (FISCHER and LEUCHS), A., i, 268.
Serpentine, lamellar, from the Rhodope Mountains (KOVÁŘ), A., ii, 328.
Serum, does lipase exist in the? (DOYON and MOREL), A., ii, 464.
anti-paramœcic (LEDOUX-LEBARD), A., ii, 680.
guinea-pig's, antitryptic power of (ACHALME), A., ii, 96.
of horses' blood, crystalline albumin from the (MAXIMOWITSCH), A., i, 66.
Serum-albumin, carbohydrates of (LANGSTEIN), A., i, 66.
hydrolytic products of (LANGSTEIN), A., i, 331.
of ox blood (HOUGARDY), A., i, 193.
Serum-globulin (VAN DE KERCKHOF), A., i, 193.
Sesamé oil, occurrence and detection of, in commercial arachis oils (SOLTSIEN), A., ii, 114.
detection of, in butter analysis (ANNATÒ; SOLTSIEN), A., ii, 113; (BREMER), A., ii, 113, 114; (REINSCH; RANWEZ), A., ii, 114.

Sesamé oil, detection of, in chocolate (UTZ), A., ii, 482.
Sesquiterpenes, characterisation and classification of the (SCHREINER and KREMERS), A., i, 108.
Sewage and sea water, nature and speed of the chemical changes which occur in mixtures of (LETTS, BLAKE, CALDWELL, and HAWTHORNE), A., ii, 221.
Shale oil, phenols from (GRAY), A., i, 605.
Scottish, bases in (GARRETT and SMYTHE), T., 449; P., **1900**, 190; **1902**, 47.
Shoots. See Agricultural Chemistry.
Silica. See Silicon dioxide.
Silicomolybdates (ASCH), A., ii, 83.
Silicon, condition of, in cast iron and ferrosilicon (LEBEAU), A., ii, 135.
cementation of iron by (LEBEAU), A., ii, 264.
amorphous, new properties of (MOISSAN and SMILES), A., ii, 560.
action of some reagents on (LEBEAU), A., ii, 255.
compounds of, with iron (LEBEAU), A., ii, 135, 264, 457.
Silicon alloys with iron, magnetism of (JOUVE), A., ii, 595.
Silicon hydride, liquid (MOISSAN and SMILES), A., ii, 318, 560.
Silicide of calcium (MOISSAN and DILTHEY), A., ii, 320.
of cerium (STERBA), A., ii, 563.
of lithium (MOISSAN), A., ii, 452.
of vanadium (MOISSAN and HOLT), A., ii, 610.
Silicon *di*oxide (*silica*), supposed formation of, from boron (FITTICA; COUNCLER), A., ii, 70.
common errors in the estimation of (HILLEBRAND), A., ii, 427.
estimation of, in silicomolybdates (ASCH), A., ii, 83.
Silicic acid in the tissues, especially in the Whartonian jelly (SCHULZ), A., ii, 275.
supposed formation of, from boric acid (FITTICA; COUNCLER), A., ii, 70.
colloidal, rate of coagulation of (FLEMMING), A., ii, 646.
the hydrogel of, influence of temperature on the texture of (VAN BEMMELEN), A., ii, 70.
Silicates, natural, action of water on (STEIGER), A., ii, 212.
analysis of (LEHMANN and STROHÉ), A., ii, 175.
Meta-silicates, natural, action of water on (SESTINI), A., ii, 212.
Silicon, estimation of, in ferrosilicons (RAMORINO), A., ii, 355; (NORRIS), A., ii, 474.
estimation of, in steel (AUCHY), A., ii, 174.
Silico-vanado-tungstic acid, salts (FRIEDHEIM and HENDERSON), A., ii, 662.
Silk-glue. See Sericin.
Silver, electrochemical equivalent of (RICHARDS and HEIMROD), A., ii, 592; (LEDUC), A., ii, 593.
melting point of (BERTHELOT), A., ii, 378.
application of the phase rule to the fusing point of (RICHARDS), A., ii, 455.
colloidal (PAAL), A., ii, 500.
lecture experiment (KÜSPERT), A., ii, 656.
catalytic decomposition of hydrogen peroxide by (MCINTOSH), A., ii, 310.
pseudo-solution of (GUTBIER), A., ii, 610.
metallic, action of bromine on, in the light and in the dark (v. CORDIER), A., ii, 18.
ions, velocity of (MATHER), A., ii, 300.
Silver amalgam from Sala (SJÖGREN), A., ii, 509.
Silver salts, action of, on solutions of ammonium persulphate (MARSHALL and INGLIS), A., ii, 561.
Silver bromide and iodide, solubility of, in water (KOHLRAUSCH and DOLEZALEK), A., ii, 72.
chlorate and sodium chlorate, mixed crystals of, and their solutions (FOOTE), A., ii, 453.
chloride, compounds of, with pyridine and quinoline (RENZ), A., i, 563.
haloids, holohedral-cubic. See Cerargyrite group.
*sub*haloids (EMSZT), A., ii, 73.
nitrate, spectrum of (HARTLEY), T., 560; P., **1902**, 68.
electrolysis of (LEDUC), A., ii, 592.
interaction of, with disodium phosphate (BERTHELOT), A., ii, 256.
in pyridine and acetonitrile solutions, relative velocities of the ions of (SCHLUNDT), A., ii, 492.
"peroxynitrate" and "peroxyfluoride" (TANATAR), A., ii, 73.
oxide, colloidal (PAAL), A., ii, 500.
action of hydrogen peroxide on (BERTHELOT), A., ii, 18, 207.
selenide, action of hydrogen on (PÉLABON), A., ii, 253.

Silver sulphate, solubility of (DRUCKER), A., ii, 74.
tellurates (GUTBIER), A., ii, 559.
gold tellurides in Western Australia (HOLROYD ; SIMPSON), A., ii, 509.
See also Calaverite.
Silver organic compounds:—
compounds with acid amides and imides (LEY and SCHAEFER), A., i, 358.
cyanide, auto-reduction of (MARSH and STRUTHERS), P., **1902**, 249.
haloids, behaviour of, with organic amino-bases (WUTH), A., i, 594.
pyridine trisulphimide (HANTZSCH and HOLL), A., ii, 15.
Silver, estimation of:—
estimation of, by gasometric method (RIEGLER), A., ii, 104.
estimation of, in presence of mercury (RUPP and KRAUSS), A., ii, 475.
estimation of, in alloys (RICHARDS), A., ii, 701.
Silver-analcite and **-chabazite** (STEIGER), A., ii, 561.
Silver ingots, American, presence of tellurium in (VINCENT), A., ii, 205.
Sitosterol and its acyl derivatives (RITTER), A., i, 446.
Skin, relationship of iron and pigments in the liver and (FLORESCO), A., ii, 157.
Slags, basic, estimation of total phosphoric acid in (ASCHMAN), A., ii, 627.
See also Agricultural Chemistry.
Soaps, rapid method for the analysis of (TELLE), A., ii, 707.
perfumed, estimation of essential oils in (MANN), A., ii, 433.
Soda ash, analysis of (NORTH and LEE), A., ii, 356.
Sodalite from Viterbo (ZAMBONINI), A., ii, 30.
Sodamide and its acyl derivatives, action of, on organic esters and on acetone (TITHERLEY), T., 1520 ; P., **1902**, 186.
use of, as a condensating agent (FREUND and SPEYER), A., i, 584.
Sodium alloys with potassium, melting points of (KURNAKOFF and PUSHIN), A., ii, 136.
Sodium arsenate, action of hydrogen peroxide on (PETRENKO), A., ii, 499.
arsenite, preparation of (LUNGE), A., ii, 174.
biborate (*borax*), the molecular condition of, in solution (SHELTON), P., **1902**, 169.
physiological action of (ROST ; RUBNER ; NEUMANN ; HEFFTER ; POLENSKE), A., ii, 620.
Sodium carbonate, equilibrium between ethyl alcohol, water, and (KETNER), A., ii, 308.
chlorate and silver chlorate, mixed crystals of, and their solutions (FOOTE), A., ii, 453.
chloride, temperature variations of the specific molecular conductivity and of the fluidity of solutions of (LYLE and HOSKING), A., ii, 440.
decrease of the vapour pressure of solutions of (SMITS), A., ii, 123.
and sulphate, solubility of mixtures of (SEIDELL and CAMERON), A., ii, 207.
physiological significance of (FREDERICQ), A., ii, 154.
neutralisation of the toxic effect of, by the sulphate (MOORE), A., ii, 467.
influence of phloridzin on the elimination of (LÉPINE and MALTET), A., ii, 617.
excretion of, after extirpation of the pancreas (LÉPINE and MALTET), A., ii, 616.
See also Agricultural Chemistry.
hydride, NaH, preparation and properties of (MOISSAN), A., ii, 206.
Na_2H, preparation of (MOISSAN), A., ii, 72.
hydroxide, electrical conductivity of, in glycerol (DI CIOMMO), A., ii, 3.
decomposition-tension of molten (SACHER), A., ii, 120.
hypochlorite, action of, on cerium and thorium hydroxides (PISSARJEWSKY), A., ii, 566.
nitrate, spectrum of (HARTLEY), T., 567 ; P., **1902**, 68.
decomposition of, by sulphuric acid (VOLNEY), A., ii, 394.
influence of, on metabolism in dogs (ROST), A., ii, 33.
See also Agricultural Chemistry.
nitrite, oxidation of, by permanganate (WADDELL), A., ii, 451.
action of, on 1-chloro-2:4-dinitrobenzene and on picryl chloride (KYM), A., i, 16.
estimation of nitrous acid in (SCHULTZ), A., ii, 473.
iridium nitrite (LEIDIÉ), A., ii, 566.
mercury nitrite (ROSENHEIM and OPPENHEIM), A., ii, 21.
*di*oxide, fused, action of, on metals (DUDLEY), A., ii, 564.
*per*oxide, action of, on the platinum metals (LEIDIÉ and QUENNESSEN), A., ii, 360.
hydrogen orthophosphate (GIRAN), A., ii, 318.

Sodium:—
Disodium phosphate, nteraction of, with silver nitrate (BERTHELOT), A., ii, 256.
Sodium *sesqui*phosphate (JOULIE; GIRAN), A., ii, 318; (SENDERENS), A., ii, 319.
sulphate, heat of dilution of (COLSON), A., ii, 551.
and chloride, solubility of mixtures of (SEIDELL and CAMERON), A., ii, 207.
heptahydrate of (DE COPPET), A., ii, 255.
vanadyl sulphates and sulphites (KOPPEL and BEHRENDT), A., ii, 86.
sulphate, molecular compound of, with hydrogen peroxide (TANATAR), A., ii, 11.
tellurate (GUTBIER), A., ii, 558.
thiosulphate, physical properties of (FAKTOR), A., ii, 256.
action of, on metallic salts (FAKTOR), A., ii, 25.
reaction of, with potassium permanganate (ÅLANDER), A., ii, 22.
Sodium organic compounds:—
thiocyanate, fate of, in the organism (POLLAK), A., ii, 616.
cadmium thiocyanate (GROSSMANN), A., i, 663.
Sodium, estimation of:—
estimation of, as the pyrosulphate (BROWNING), A., ii, 175.
estimation of, in urine (GARRATT), A., ii, 226.
Soils, sampling of (LEATHER), T., 883; P., **1902**, 125.
apparatus for the mechanical analysis of (GAWALOWSKI), A., ii, 232.
determination of available plant food in, by the use of weak acid solvents (HALL and PLYMEN), T., 117; P., **1901**, 239, 265.
method of estimating small quantities of carbonates in (HALL and RUSSELL), T., 81; P., **1901**, 241.
chemical methods of estimating the fertility of, as regards phosphoric acid (GEDROIZ), A., ii, 688.
estimation of soluble phosphorus in (SCHLŒSING), A., ii, 221.
estimation of sulphuric acid in (WILLIAMS), A., ii, 692.
See also Agricultural Chemistry.
Solanum chenopodinum, chemistry of (SAGE), A., ii, 281.
Solanum Dulcamara, chemistry of (DAVIS), A., ii, 686.
Solid substances, combination of: lecture experiment (BODROUX), A, ii, 391.
Solid substances, action of, on one another (MATUSCHEK), A., ii, 501.
Solubility. See under Solution.
Solution, theory of (TRAUBE), A., ii, 551.
Solubility, factors which condition (LUMSDEN), T., 363; P., **1902**, 31.
method of calculating (FINDLAY), A., ii, 386.
of gases in organic solvents and in their solutions (LEVI), A., ii, 247.
of salts (GROSCHUFF), A., ii, 7.
of analogous salts (RABE), A., ii, 491.
of double salts in water (RIMBACH), A., ii, 306.
of alums as a function of two variables (LOCKE), A., ii, 21.
of ammonia in salt solutions, as measured by its partial pressure (ABEGG and RIESENFELD), A., ii, 309.
of barium sulphate in aluminium chloride, ferric chloride, and magnesium chloride (FRAPS), A., ii, 394.
of calcium carbonate in aqueous solutions of certain electrolytes in equilibrium with atmospheric air (CAMERON and SEIDELL), A., ii, 320.
of calcium hydrogen phosphate in water (RINDELL), A., ii, 208.
of carbon monoxide in binary organic mixtures (SKIRROW), A., ii, 600.
of gypsum (HULETT and ALLEN), A., ii, 656.
in aqueous solutions of certain electrolytes (CAMERON and SEIDELL), A., ii, 207.
in aqueous solutions of sodium chloride (CAMERON), A., ii, 75.
of hydroxides of heavy metals in sodium hydroxide (RUBENBAUER), A., ii, 396.
of hydroxylamine phosphate and sulphate (ADAMS), A., ii, 655.
of lead and zinc hydroxides (HERZ), A., ii, 77.
of mercurous sulphate and silver sulphate (DRUCKER), A., ii, 74.
of potassium hydroxide in water (FERCHLAND), A., ii, 318.
of potassium iodide in nitrobenzene containing iodine (DAWSON and GAWLER), T., 529; P., **1902**, 69.
of silver bromide and iodide in water (KOHLRAUSCH and DOLEZALEK), A., ii, 72.
of mixtures of sodium chloride and sulphate (SEIDELL and CAMERON), A., ii, 207.
of double sulphates of the formula $M'_2M''(SO_4)_2, 6H_2O$ (LOCKE), A., ii, 497.

Solubility of the sulphides of antimony, arsenic, and tin (LANG and CARSON), A., ii, 700.
of sulphur dioxide in aqueous salt solutions, and its interaction with the salts (FOX), A., ii, 645.
of uranium sulphates (OECHSNER DE CONINCK), A., ii, 458.
of zinc hydroxide in ammonia and ammonium bases (HERZ), A., ii, 398.
of the calcium salts of the acetic acid series (LUMSDEN), T., 350; P., **1902**, 31.
of barium acetate (WALKER and FYFFE), P., **1902**, 246.
of anthracene, mannitol, and picric acid (FINDLAY), T., 1217; P., **1902**, 172.
of salts of benzoic, cinnamic, salicylic and succinic acids (TARUGI and CHECCHI), A., i, 204.
of silver benzoate (LIEBERMANN), A., i, 368.
of cyamelide and cyanuric acid (SENIER and WALSH), T., 291; P., **1902**, 13.
of iodine in nitrobenzene containing potassium iodide (DAWSON and GAWLER), T., 528; P., **1902**, 69.
of minerals in magmas (DOELTER), A., ii, 28.
of certain fresh resins (COFFIGNIER), A., i, 633.
Solubility influences, reciprocal nature of (ROTHMUND and WILSMORE), A., ii, 447.
Solutions of complex compounds, investigation of (BODLÄNDER), A., ii, 63.
molecular surface energy of (PEKÁR), A., ii, 245.
concentrated, contribution to our knowledge of (RICHARDS and ARCHIBALD), A., ii, 384.
thermodynamics of (SCHÜKAREFF), A., ii, 4; (VAN LAAR), A., ii, 122.
dilute, expanded theory of (JAHN), A., ii, 597.
very dilute, the transport number of (STEELE and DENISON), T., 456; P., **1902**, 29.
normal saline, refraction of (BENDER), A., ii, 437.
saturated, of analogous salts (ROSSI), A., ii, 198.
behaviour of, on addition of a salt with an ion in common (EVANS), A., ii, 645.
supersaturated, theory of the molecular constitution of (HARTLEY), A., ii, 200.
turbid, clearing of (QUINCKE), A., ii, 200.
Solvent, influence of the, during the nitration of ring compounds (SCHWALBE), A., i, 755.
liquid nitrogen peroxide as a (FRANKLAND and FARMER), P., **1902**, 47; (BRUNI), A., ii, 312.
liquid sulphur dioxide as a (WALDEN and CENTNERSZWER), A., ii, 245.
Solvent properties of mixed liquids (DAWSON), T., 1086; P., **1902**, 179.
Solvents, dielectric constants of pure (SCHLUNDT), A., ii, 2.
electrolytic phenomena at the surface of separation of two (NERNST and RIESENFELD), A., ii, 594; (HITTORF), A., ii, 642.
influence of, on the rotation of optically active compounds (PATTERSON), T., 1097, 1134; P., **1902**, 133.
inorganic, and their dissociative power (WALDEN), A., ii, 247.
nitriles as, in molecular weight determinations (KAHLENBERG), A., ii, 310.
See also Cryoscopy.
Sorbic acid, action of barium hydroxide on (DOEBNER), A., i, 598.
homologues of (DOEBNER and WEISSENBORN), A., i, 340.
Sorbosephenylmethylosazone (NEUBERG), A., i, 264.
Sorghum vulgare. See Agricultural Chemistry.
Specific gravity. See Density.
heat. See Thermochemistry.
rotation. See Photochemistry.
volume. See Volume, specific.
Spectra and **Spectroscopy**. See Photochemistry.
Spermatic fluid, crystals from (BOCARIUS), A., ii, 274.
Spermatoxin, influence of, on reproduction (DE LESLIE), A., ii, 32.
Sperrylite from the Rambler mine, Wyoming (WELLS and PENFIELD), A., ii, 267.
Spessartite from the Rhodope Mountains (KOVÁŘ), A., ii, 327.
Spices, estimation of essential oils in (MANN), A., ii, 432.
Spider, garden, the poison of the. See Arachnolysin.
Spleen and blood corpuscles (NOËL-PATON), A., ii, 410.
relation between, and pancreas (RETTGER) A., ii, 275.
condition of the iron in the (BRODIE), A., ii, 339.
influence of the, on pancreatic digestion (MENDEL and RETTGER), A., ii, 615.
proteolytic enzyme of the (LEATHES), A., ii, 615.

Spodumene from Moravia (KOVÁŘ), A., ii, 329.
Stachyose, crystallised (SCHULZE), A., i, 594.
Stannous compounds. See under Tin.
Starch, origin of, in wheat grain (DEHÉRAIN and DUPONT), A., ii, 100.
soluble, acetylation of (PREGL), A., i, 135.
gelatinisation of (LEVITES), A., ii, 312.
action of iodine and of other oxidisers in the hydrolysis of (HALE), A., i, 533.
velocity of hydrolysis of, by diastase (BROWN and GLENDINNING), T., 388; P., **1902**, 43.
the swelling and solution of, by chloral hydrate (MAUCH), A., i, 426.
action of ungerminated barley diastase on (BAKER), T., 1177; P., **1902**, 134.
estimation of, in cereals (LINDET), A., ii, 55, 292.
estimation of, in sausages and meat (MAYRHOFER), A., ii, 180.
estimation of, in commercial starches and flour (GIANTURCO), A., ii, 705.
Starch syrups, composition and analysis of (HÖNIG), A., ii, 705.
Steam boiler, behaviour of magnesium chloride in a (OST), A., ii, 657, 659.
Stearopalmito-olein (HANSEN), A., i, 340.
Steel. See under Iron.
Stereochemistry of benzene (MARSH), T., 961; P., **1902**, 164; (GRAEBE), A., i, 209; (MARCKWALD), A., i, 274; (VAUBEL), A., i, 361.
of nitrogen (WEDEKIND and OECHSLEN), A., i, 118.
Stereoisomerides, behaviour of, in the organism (NEUBERG and WOHLGEMUTH), A., ii, 336.
Stibine. See Antimony hydride.
Stilbazole (*styrylpyridine*) and amino- and nitro-, and the dibromide of the amino-compound (FEIST), A., i, 642; (SCHMIDT), A., i, 826.
Stilbene (s-*diphenylethylene*), action of nitrogen trioxide and peroxide on (SCHMIDT), A., i, 21.
Stilbene, *p*-chloro- (v. WALTHER and RAETZE), A., i, 467.
α- and β-*di*nitro- (SCHMIDT), A., i, 500.
2:4-*di*-, 2:4:3′- and 2:4:4′-*tri*-nitro- (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 364.
Stilbite from the Elba granite (MANASSE), A., ii, 90.
Stilbyl methyl ketone (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.
Storax, American (TSCHIRCH and VAN ITALLIE), A., i, 110.
American and Asiatic (VAN ITALLIE), A., i, 45, 46.
oriental (TSCHIRCH and VAN ITALLIE), A., i, 109.
Storesinol (VAN ITALLIE), A., i, 45.
and its methyl ether from oriental storax (TSCHIRCH and VAN ITALLIE), A., i, 110.
Strawberries. See Agricultural Chemistry.
Strontianite from Bohemia (KOVÁŘ), A., ii, 329.
Strontium, metallic, preparation of (GUNTZ), A., ii, 138.
Strontium alloys with cadmium and with zinc (GAUTIER), A., ii, 138.
Strontium chloride, compound of, with iodine trichloride (WEINLAND and SCHLEGELMILCH), A., ii, 315.
hydride (GUNTZ; GAUTIER), A., ii, 138.
preparation and properties of (GAUTIER), A., ii, 208.
dissociation pressure and heat of formation of (GUNTZ), A., ii, 394.
hydride and nitride, formation and stability of (GAUTIER), A., ii, 453.
*tetra*iodide (MEYER), A., ii, 319.
Strychnidine (TAFEL and NAUMANN), A., i, 53.
Strychnine, electrolytic reduction of (TAFEL and NAUMANN), A., i, 53.
and morphine, behaviour of, in putrefying corpses, and detection of, in urine (AUTENRIETH), A., ii, 368.
estimation of, in nux vomica (DOWZARD), P., **1902**, 220.
separation of, from brucine (LYONS), A., ii, 710.
Stylophorum diphyllum, chemistry of (SCHLOTTERBECK and WATKINS), A., ii, 100.
Stylopine (SCHLOTTERBECK and WATKINS), A., ii, 100.
Styrene and its derivatives, migration of the phenyl group in (TIFFENEAU), A., i, 666.
Styrene, *o*- and *p*-nitro-β-bromonitro-, and the action of alcohol on (FLÜRSCHEIM), A., 671.
Styrenes (KLAGES), A., i, 611, 666.
Styrenes, αβ-*di*chloro-, action of ammonia on (KUNCKELL and VOSSEN), A., i, 599.
Styresinol from American storax (VAN ITALLIE), A., i, 46; (TSCHIRCH and VAN ITALLIE), A., i, 110.
Styrogenin (VAN ITALLIE), A., i, 45.

Styrylmethanebis-2:5-dimethylpyrrole-3-carboxylic acid, ethyl ester (FEIST, WIDMER, and SAKOWITSCH), A., i, 490.

Styrylmethylcarbinol and its chloride and phenylurethane (KLAGES), A., i, 669.

Substance, m. p. 134–135°, from ββ-2:3:5-pentabromo-*p*-ethylidenequinone (ZINCKE, SIEBERT, and REINBACH), A., i, 609.

$C_2H_2O_2N_2$, from the action of sulphuric acid on nitromalonamide (ULPIANI and FERRETTI), A., i, 431.

$C_3H_7N_4I$ and $C_3H_9N_4I_3$, from the action of methyl iodide on tetrazoline (RUHEMANN and STAPLETON), T., 261 ; P., **1902**, 30.

$C_4H_8O_2N_2$, from the electrolytic reduction of dialuric acid (TAFEL and REINDL), A., i, 15.

$C_4H_{10}O_4S_3$, from the action of heat on ammonium ethyl sulphite (GOLDBERG and ZIMMERMANN), A., i, 738.

$C_5H_{11}C_3Cl$, from the action of alcohol on $C_3H_7O_3Cl$ (COOPS), A., i, 77.

$C_6H_4O_3S_2$, from potassium *m*-benzenedithiosulphonate (TRÖGER and MEINE), A., i, 600.

$C_6H_4O_5N$, from 5-nitro-β-methyluracil-4-carboxylic acid (BEHREND and THURM), A., i, 833.

$C_6H_{11}O_3N_3$, and its dibenzoyl derivative, from the action of formaldehyde on creatine or creatinine (JAFFÉ), A., i, 748.

$C_7H_2O_2Br_4$, from pentabromotoluquinol and alcoholic sodium hydroxide (ZINCKE and WIEDERHOLD), A., i, 285.

$C_7H_2O_2Cl_4$, and its compounds with acetyl bromide and chloride, from tetrachlorobromotoluquinol and alcoholic sodium hydroxide (ZINCKE and WIEDERHOLD), A., i, 283.

$(C_7H_5O_2N)_x$, from *p*-nitrosobenzaldehyde and sulphuric acid (ALWAY), A., i, 697.

$C_7H_8ON_2$, and its diacetyl derivative, from 2:4-dinitrobenzaldehyde and ammonium sulphide (SACHS and KEMPF), A., i, 682.

$C_7H_9ON_3$, from anthranil and hydrazine hydrate (BUHLMANN and EINHORN), A., i, 95.

$C_7H_{10}O_2N$, from the action of hydroxylamine on γ-lutidone (PETRENKO-KRITSCHENKO and MOSSESCHWILI), A., i, 190.

$C_7H_{14}O_4$(?), from ethyl acetoacetate, chloroacetone, and ammonia (FEIST), A., i, 489.

Substance, $C_8H_2OBr_6$ (two), from ββ-2:3:5:6-hexabromo-*p*-ethylidenequinone, and from αββ-2:3:5:6-heptabromo-*p*-ethylphenol (ZINCKE, SIEBERT, and REINBACH), A., i, 608.

$C_8H_3OBr_5$, from ββ-2:3:5-pentabromo-*p*-ethylidenequinone (ZINCKE, SIEBERT, and REINBACH), A., i, 609.

$C_8H_4O_2Br_4$, and its compound with acetyl bromide, from pentabromo-*m*-xyloquinol and sodium hydroxide (ZINCKE and TRIPP), A., i, 286.

$C_8H_{10}O_2$, and its phenylhydrazine derivative, from formaldehyde and acetonylacetone (KNORR and RABE), A., i, 13.

$C_8H_{10}O_2N_2$, from the oxidation of pilocarpine (PINNER and SCHWARZ), A., i, 639.

$C_8H_{12}O_3N_2$, from hydroxylamine potassium carbonate, and ethyl ββ-diacetyl-α-methylpropionate (MARCH), A., i, 258, 707.

$C_9H_3O_3N$, from paraldehyde and *o*-nitrosobenzoic acid (CIAMICIAN and SILBER), A., i, 378.

$C_9H_{10}O_2NCl$ from methyl *p*-aminobenzoate, formaldehyde and hydrogen chloride (GOLDSCHMIDT), A., i, 785.

$C_9H_{16}O$ from terpineol (b. p. 212–213°) (WALLACH and RAHN), A., i, 804.

$C_9H_{18}O_2$, and its acetate, from the action of sulphuric acid on dihydroxymethyltert. butylallylcarbinol (PETSCHNIKOFF), A., i, 338.

$C_{10}H_{14}O_3N_2$, from ethyl diazoacetate and propionylacetone (KLAGES), A., i, 497.

$C_{10}H_{16}O$, from trihydroxyterpineol (WALLACH and RAHN), A., i, 723.

$C_{10}H_{16}O_4N_2$, and its metallic derivatives, from caoutchouc (WEBER), A., i, 553.

$C_{11}H_8O_4$, preparation of, and use of, for the identification of carbamide and primary amines (FENTON), P., **1902**, 244.

$C_{11}H_{14}O_2$, from ethyl bromoisobutyrate and *p*-methylbenzaldehyde (ZELTNER), A., i, 371.

$C_{12}H_{10}O_3N_2$, from the action of hydrochloric acid on the phenylhydrazone of the αγ-lactone of α-keto-γ-hydroxybutane-αγ-dicarboxylic acid (DE JONG), A., i, 122.

$C_{12}H_{14}O_5Hg$, and its isomeride, from safrole and mercuric acetate (BALBIANO, PAOLINI, and LUZZI), A., i, 809.

Substance, $C_{12}H_{16}O_2N_2$, from the action of cyanogen chloride on sodium camphor (DUVAL), A., i, 106.

$C_{13}H_{13}ON_3$, from anthranil and phenylhydrazine (BUHLMANN and EINHORN), A., i, 95.

$C_{13}H_{14}O_3$, from dimethyldihydrophthalidetetronic acid (WOLFF, GABLER, and HEYL), A., i, 679.

$C_{13}H_{16}O_5N_2$, and $C_{14}H_{20}O_8N_2$, from the reduction of acid (methyl ester) $C_{14}H_{18}O_8N_2$ (PERKIN), P., **1901**, 204.

$C_{13}H_{17}O_3N$, from the hydrolysis of the base $C_{14}H_{18}O_4N_2$ (FREUND and BAMBERG), A., i, 557.

$C_{13}H_{19}O_4N$, from ethyl *p*-aminobenzoate and ethyl orthoformate (GOLDSCHMIDT), A., i, 785.

$C_{14}H_7O_2N$, from 2-aminoanthraquinone (BADISCHE ANILIN- & SODA-FABRIK), A., i, 721.

$C_{14}H_{11}O_2N_3$, from phenylhydrazine and 1-nitrocoumarone (STOERMER and KAHLERT), A., i, 457.

$C_{14}H_{15}O_4N$, from cinnamide and ethyl sodiomalonate (VORLÄNDER), A., i, 310.

$C_{15}H_{12}O_4N_2$, and its analogue from *m*- and *p*-aminobenzoic acids and ethyl orthoformate (GOLDSCHMIDT), A., i, 785.

$C_{15}H_{16}ON_2$, from salicylaldehyde and *s*-dimethylphenylenediamine (FISCHER and RIGAUD), A., i, 188.

$C_{15}H_{16}O_4$, from phenylazoacetylacetone (BÜLOW and SCHLOTTERBECK), A., i, 649.

$C_{15}H_{16}N_2$, from benzaldehyde and *s*-dimethylphenylenediamine (FISCHER and RIGAUD), A., i, 188.

$C_{15}H_{18}O_3$, and its acetyl derivative from the reduction of artemisin (BERTOLO), A., i, 815.

$C_{15}H_{22}O_8$, from the action of methylene di-iodide on ethyl ethanetetracarboxylate (KÖTZ and SPEISS), A., i, 13.

$C_{16}H_8O_2N_2Br_2$, from the action of potassium bromate and bromide on indigotin (VAUBEL), A., i, 543.

$C_{16}H_{10}O_4$, and its triacetyl derivative, from the reduction of trimethylbrazilone (BOLLINA, V. KOSTANECKI, and TAMBOR), A., i, 482.

$C_{16}H_{10}O_5$, and its tetra-acetyl derivative, from the reduction of acetyltrimethyldehydrobrazilone (V. KOSTANECKI and LAMPE), A., i, 482.

$C_{16}H_{12}O_2$, from the condensation of phenoxyacetophenone with metallic sodium (V. KOSTANECKI and TAMBOR), A., i, 470.

Substance, $C_{16}H_{13}ON_3$, and $C_{17}H_{15}O_3N_3$ from aniline δ-nitropyromucate (HILL and WHITE), A., i, 388.

$C_{16}H_{26}O_3$, from the action of hydriodic acid on styrogenin (VAN ITALLIE), A., i, 46.

$C_{16}H_{26}O_3$, from storesinol and hydrogen bromide (TSCHIRCH and VAN ITALLIE), A., i, 110.

$C_{17}H_{14}O_4$, and its acetyl compound from commercial chrysarobin (JOWETT and POTTER), T., 1583; P., **1902**, 192.

$C_{17}H_{14}O_4N_4$, from *p*-nitrobenzaldehyde and ethyl benzeneazoaminocrotonate (PRAGER), A., i, 64.

$C_{17}H_{15}O_3N$, from the action of hydroxylamine on benzyl 3:4-methylenedioxycinnamenyl ketone (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.

$C_{17}H_{16}O_4N_2$, from ethyl *p*-aminobenzoate and ethyl orthoformate (GOLDSCHMIDT), A., i, 785.

$C_{17}H_{17}ON$, from the action of hydroxylamine on benzyl *p*-methylcinnamenyl ketone (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.

$C_{17}H_{17}O_2N$, from the action of hydroxylamine on benzyl *p*-methoxycinnamenyl ketone (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.

$C_{17}H_{20}O_2N_2$, from the action of nitrous acid on benzylidenecamphoroxime (FORSTER), P., **1902**, 90.

$C_{18}H_{12}O_3N_2$, from the reduction of carbindigo (GABRIEL and COLMAN), A., i, 643.

$C_{18}H_{17}ON_3$ and $C_{19}H_{17}O_3N_3$, from *p*-toluidine δ-nitropyromucate (HILL and WHITE), A., i, 388.

$C_{19}H_{16}O_7$, from the action of quinone on excoecarin (PERKIN and BRIGGS), T., 215; P., **1902**, 11.

$C_{19}H_{18}O_9N_2$, from the reduction of $C_{19}H_{10}O_3N_2$ with zinc and acetic acid (HENRICH and RHODIUS), A., i, 448.

$C_{19}H_{19}O_9N$, from the action of nitric acid on trimethylbrazilone (BOLLINA, V. KOSTANECKI, and TAMBOR), A., i, 482; (V. KOSTANECKI and PAUL), A., i, 686.

$C_{20}H_{11}ON$, from *o*-acridylbenzoic acid (DAMMANN and GATTERMANN), A., i, 795.

$C_{20}H_{18}O_3N_4$, from dihydroxymethoxymethylbenzene and diazoaminobenzene (BOEHM), A., i, 37.

$C_{20}H_{22}O_5N_4$, from *p*-nitrobenzaldehyde and ethyl benzeneazomethylaminocrotonate (PRAGER), A., i, 64, 578.

Substance, $C_{20}H_{30}O_9N_2$, from ethyl aminocrotonate and ethyl diketosuccinate (FEIST and STENGER), A., i, 490.

$C_{22}H_{18}N_4$, from $\beta\gamma\delta$-triketo-δ-phenylbutane β-phenylhydrazone and *o*-phenylenediamine (SACHS and RÖHMER), A., i, 837.

$C_{22}H_{19}O_3N_3$, from hydrobenzamide and ethyl cyanoacetate (BECCARI), A., i, 375.

$C_{22}H_{26}O_2$ (two), from the reduction of benzylidenemethyl ethyl ketone and γ-benzylidene-ethyl methyl ketone (HARRIES and MÜLLER), A., i, 296.

$C_{22}H_{29}ON_5$, from diazobenzene chloride and ethyl diethylaminocrotonate (PRAGER), A., i, 65.

$C_{23}H_{17}N_3$, from benzylidenecyanohydrin and benzeneazo-α-naphthylamine (SACHS and GOLDMANN), A., i, 781.

$C_{23}H_{13}O_2N_2$, from mandelonitrile (STOLLÉ), A., i, 468.

$C_{23}H_{22}O_{11}$, from the oxidation of ψ-methyl opianate (WEGSCHEIDER), A., i, 619.

$C_{24}H_{20}O_3N_2$, from benzylidenecyanohydrin and anisaldehyde (STOLLÉ), A., i, 468.

$C_{24}H_{26}ON_4$, from phenylhydrazine and filicyl-*n*-butanone (BOEHM), A., i, 36.

$C_{24}H_{28}O_7$, from the action of acetic anhydride on flavaspidic acid (BOEHM), A., i, 38.

$C_{26}H_{24}O_2N_2$, from tolualdehydecyanohydrin (STOLLÉ), A., i, 468.

$C_{30}H_{50}O_7$, from the action of zinc and sulphuric acid on digitogenin (KILIANI and MERK), A., i, 46.

$C_{31}H_{29}O_4N_3$, from hydrobenzamide and ethyl cyanoacetate (BECCARI), A., i, 375.

$C_{32}H_{22}O_4N_4$ (two), from the reduction of indigotin and indigo-red (VAUBEL), A., i, 543.

$C_{34}H_{35}O_7N_3$, from anishydramide and ethyl cyanoacetate (BECCARI), A., i, 376.

$C_{34}H_{38}O_4$, from the action of potassium ferricyanide on enolic benzoylcamphor (FORSTER), P., **1902**, 238.

$C_{35}H_{54}O_{20}$, from the oxidation of α-manelemic acid (TSCHIRCH and CREMER), A., i, 812.

$C_{37}H_{40}O_4N_4$, from the action of phenylhydrazine on albaspidin (BOEHM), A., i, 38.

$C_{38}H_{32}O_2N$, from triphenylcarbinol and hydroxylamine (v. BAEYER and VILLIGER), A., i, 769.

Substitution, the process of, in the fatty series (MICHAEL, GRAVES, and GARNER), A., i, 69.

influence of, on the reactivity of the aromatic *m*-diamines (MORGAN), T., 650; P., **1902**, 87.

influence of, on the formation of diazoamines and aminoazo-compounds (MORGAN), T., 86, 1376; P., **1901**, 236; **1902**, 185.

Substitution derivatives, part played by residual affinity in the formation of (ARMSTRONG and HORTON), P., **1901**, 246.

Succinaldehyde monoacetin, nitro- (MARQUIS), A., i, 483.

Succindialdehyde (HARRIES), A., i, 345.

Succinic acid (*ethanedicarboxylic acid*), salts, solubilities of (TARUGI and CHECCHI), A., i, 204.

Succinic acid (*ethanedicarboxylic acid*), ethyl esters, unsaturated dicarboxylic acids from ketones and (STOBBE), A., i, 459; (STOBBE and NIEDENZU), A., i, 460; (STOBBE, STRIGEL, and MEYER), A., i, 461.

Succinic acid (*ethanedicarboxylic acid*), bromo-, velocity of decomposition of, in aqueous solution (MÜLLER), A., ii, 647.

Succinic anhydride, behaviour of, towards water (VAN DE STADT), A., ii, 598.

Succinimide, formation of (BOGERT and ECCLES), A., i, 270.

Succinochloroimide, oxidising and bleaching properties of (TSCHERNIAC and BRAUN), A., i, 141.

Succintetraethylacetal (HARRIES), A., i, 345.

Sucrose (*saccharose, cane sugar*) in coffee berries (GRAF), A., ii, 40.

in the food reserves of phanerogams (BOURQUELOT), A., ii, 420.

in the tubercles of *Carum Bulbocastanum* (HARLAY), A., ii, 220.

magnetic rotation of (PERKIN), T., 189; P., **1901**, 256.

rotatory power of (PELLAT), A., i, 264.

rotation of, when dissolved in amines (WILCOX), A., i, 747.

rotation of, in pyridine and in water (WILCOX), A., i, 83.

density of, in aqueous solutions (DEMICHEL), A., i, 264.

inversion of (v. LIPPMANN), A., i, 84.

influence of concentration, of pressure, of neutral salts, and of sodium chloride on the velocity of inversion of, by sucrase (HENRI), A., i, 712.

heat of inversion of (PETIT) A., i, 205.

Sucrose, products of the fermentation of, by a mucus-forming bacillus (SCHARDINGER), A., ii, 469.
digestion of (WIDDICOMBE), A., ii, 335.
detection of, in plants by means of invertin (BOURQUELOT), A., ii, 55.
estimation of, in beets (HILTNER and THATCHER), A., ii, 111.
estimation of, in preserved fruits containing starch sugar (SCHREFELD), A., ii, 536.
Sugar, formation of, from fat (LOEWI), A., ii, 273.
formation of, from glycerol by testicular tissues (BERTRAND), A., ii, 159.
non-formation of, in boiled liver (PAVY and SIAU), A., ii, 217.
formation of, in the liver during perfusion of blood through it (KRAUS), A., ii, 572.
formation of, from proteids (LOEW), A., ii, 407.
Sugar cane. See Agricultural Chemistry.
Sugar, invert-, from *Bassia latifolia* blossom (v. LIPPMANN), A., ii, 420.
Sugars, reducing, extraction of (TANRET), A., i, 426.
nickel salts as reagents for (DUYK), A., ii, 54.
Sugar solutions, capillary constants of (DEMICHEL), A., ii, 703.
use of acid mercuric nitrate in the analysis of (PATEIN and DUFAU), A., ii, 291.
Sugars of apricots (DESMOULIÈRE), A., ii, 685.
in some South European fruits (BORNTRAEGER), A., ii, 347.
formation of, by the action of enzymes on hemicelluloses (GRÜSS), A., i, 713.
isomeric acetylhalogen derivatives of (FISCHER and ARMSTRONG), A., i, 263, 746.
carbamide derivatives of (SCHOORL), A., i, 83.
formaldehyde derivatives of (DE BRUYN and ALBERDA VAN EKENSTEIN), A., i, 745.
preparation of osones and osazones from (FISCHER and ARMSTRONG), A., i, 745.
of the blood and glycolysis (LÉPINE and BOULUD), A., ii, 151.
utilisation of, by the organism (CHARRIN and BROCARD), A., ii, 216, 274.
simple stereoisomeric, absorption of, in the small intestine (NAGANO), A., ii, 516.
Sugars, detection and separation of, by β-naphthylhydrazone (HILGER and ROTHENFUSSER), A., ii, 479.
estimation of, in blood (LÉPINE and BOULUD), A., ii, 434.
See also Carbohydrates.
Sulfurite (RINNE), A., ii, 611.
Sulphamide, preparation of, from ammonium amidosulphite (DIVERS and OGAWA), T., 504; P., **1902**, 71.
Sulphanilic acid, *mono-* and *di*-iodo- (KALLE & Co.), A., i, 716.
Sulphetone, $C_7H_{12}S_2$, and **Sulphonetone**, $C_7H_{12}O_4S_2$ (WEIGERT), A., i, 11.
Sulphides, aromatic, influence of atoms and atomic groups on the conversion of, into sulphones (BLANKSMA), A., i, 209.
cyclic aromatic, separation of, from coal tar hydrocarbons (AKTIEN-GESELLSCHAFT FÜR THEER- & ERDÖL-INDUSTRIE), A., i, 714.
Sulphimide, so-called (HANTZSCH and HOLL), A., ii, 14.
Sulphinic acids, aromatic, preparation of (BASLER CHEMISCHE FABRIK), A., i, 715.
Sulphoacetic acid, chloro-, resolution of, into optical isomerides (PORCHER), A., i, 527.
4-Sulphobenzeneazo-1:3-diphenylpyrazolone (BÜLOW and HAILER), A., i, 326.
m-**Sulphobenzoic acid** and its esters, conductivity of (WEGSCHEIDER), A., i, 618.
Sulphocampholenecarboxylic acid and its salts (HARVEY and LAPWORTH), P., **1902**, 142.
Sulphochromic acid. See under Chromium.
*iso*per**Sulphocyanic acid**, formation of (DIXON), T., 168; P., **1901**, 261.
Sulphohydroxamic acids, hydrolysis of (ANGELI, ANGELICO, and SCURTI), A., i, 765.
Sulphonal, *di*amino-, and its salts and diacetyl derivative (MANASSE), A., i, 348.
Sulphones, aromatic, influence of atoms and atomic groupings on the formation of, from sulphides (BLANKSMA), A., i, 209.
Sulphones. See also :—
Acetophenonedi-benzyl-, -ethyl-, and -phenyl-sulphones.
β-Amylsulphone*iso*butyl methyl ketone.
β-Amylsulphone-β-methyl-β-phenylethyl phenyl ketone.
o-Anisylmethylsulphone.
o-Anisylsulphoneacetic acid.

Sulphones. See :—
o-Anisylsulphone-ethyl alcohol.
β-Amylsulphone-*β*-phenylethyl phenyl ketone.
Benzaldehyde-dialkyl- and -diarylsulphones.
m-Benzenedibenzylsulphone.
m-Benzenedisulphoneanilide.
m-Benzenedisulphonedibenzylanilide.
m-Benzenedisulphonehydroxylamine.
m-Benzene*di*iododimethyldisulphone.
Benzophenone-di-benzyl- and -ethylsulphones.
β-Benzylsulphone-*β*-methyl-*β*-phenylethyl phenyl ketone.
β-Benzylsulphone-*β*-phenylethyl phenyl ketone.
Bistetramethylenesulphone.
ψ-Cumylsulphoneacetic acid.
ψ-Cumysulphone-ethyl alcohol.
Di-*β*-alkylsulphone*iso*butyl ketones.
ββ-Diamylsulphone-butane-*γ*-one, -*γ*-methylpentane-*δ*-one, and -pentane-*γ*- and -*δ*-ones.
ββ-Diamylsulphonepentane-3-one.
Di-*o*-anisylethylenedisulphone.
Dibenzylacetonedialkylsulphones.
ββ-Dibenzylsulphone-*γ*-methylpentane-*δ*-one, and -pentane-*γ*- and -*δ*-ones.
Di-*ψ*-cumylethylenedisulphone.
Di-*α*- and -*β*-naphthylethylenedisulphones.
ζζ-Diphenylsulphone-*β*-methylheptane-*γ*-one.
Diphthaliminosulphonal.
Disulphones.
Di-*m*- and -*p*-xylylethylenedisulphones.
2-Methyl*cyclo*tetramethylene-1:3-disulphone.
Naphthylsulphoneacetic acid.
Naphthylsulphone-ethyl alcohols.
α-Phenyl-*γγ*-dibenzylsulphonebutane-*α*-al.
Phenylethylenedisulphone.
Phenylsulphoneacetic acid.
Phenylsulphone-ethyl alcohol.
β-Phenylsulphone-*β*-methyl-*β*-phenylethyl phenyl ketone.
β-Phenylsulphone-*β*-phenylethyl methyl ketone.
α-Phenylsulphone-*β*-phenylethyl phenyl ketone.
ββγγ-Tetrabenzylsulphonebutane.
ββεε-Tetrabenzylsulphonehexane.
γγζζ-Tetrabenzylsulphone-*β*-methylheptane.
ββεε-Tetraphenylsulphonehexane.
ββγ-Trialkylsulphone-*δ*-phenylbutanes.
ααγ-Tribenzylsulphone-*αγ*-diphenylpropane.

Sulphones. See :—
m-Xylylalkylsulphones.
o-Xylylenedibenzyldisulphone.
cyclo-o-Xylylene-1:3-disulphone-2-methylene,-2-methylmethylene, and -2-phenyl-2-methylmethylene.
Xylylsulphoneacetic acids.
Xylylsulphone-ethyl alcohols.
Sulphosalicylic acid, *o*- and *p*-amino-, and their diazonium compounds (TURNER), A., i, 290.
Sulphourethane and its sodium and potassium derivatives (EPHRAIM), A., i, 269.
Sulphoxides, comparison of, with ketones (SMYTHE), A., i, 221.
Sulphur, occurrence of free, in Beaumont petroleum (RICHARDSON and WALLACE), A., ii, 327.
in proteids (MÖRNER), A., i, 331.
amorphous (SMITH and HOLMES), A., ii, 650.
sublimed (LEONARD), A., ii, 131.
existence of a blue or green modification of (ORLOFF), A., ii, 315.
electrochemical behaviour of (KÜSTER), A., ii, 640.
basic properties of (EDINGER and EKELEY), A., i, 230.
viscosity of (MALUS), A., ii, 131.
molecular weight of (PEKÁR), A., ii, 245.
determination of the vapour density of, by the Dumas method (BILTZ and PREUNER), A., ii, 132.
sexavalency of (POPE and NEVILLE), T., 1552; P., **1902**, 198.
orienting influence of (ARMSTRONG and HORTON), P., **1901**, 246.
mixtures of, with phosphorus, below 100° (BOULOUCH), A., ii, 560.
mixed crystals of selenium and (RINGER), A., ii, 651.
Sulphur compounds, estimation of methoxyl groups in (KAUFLER), A., ii, 291.
Sulphur chloride, determination of the molecular weight of, by the boiling point method (ODDO), A., ii, 6.
chloride, action of, on benzene (LIPPMANN and POLLAK), A., i, 750.
Thionyl chloride, determination of the molecular weight of, by the boiling point method (ODDO), A., ii, 6.
use of, for the formation of acid chlorides (MEYER), A., i, 31.
Sulphuryl chloride, preparation of (WOHL and RUFF), A., ii, 604.
decomposition of chlorosulphonic acid into sulphuric acid and (RUFF), A., ii, 13.

Sulphur fluorides and oxyfluorides (MOISSAN and LEBEAU), A., ii, 557
Sulphur hydride. See Hydrogen sulphide.
Sulphide of carbon, gaseous, non-existence of (RUSSELL and SMITH), T., 1538; P., **1902**, 197.
Sulphides, action of hydrogen on (PÉLABON), A., ii, 253.
Sulphur iodides (MACIVOR), A., ii, 650.
*di*oxide, liquid, conductivity and dielectric constant of, and the influence of temperature on them (EVERSHEIM), A., ii, 596.
solubility of, in aqueous salt solutions and its interaction with the salts (FOX), A., ii, 645.
liquid, as a solvent (WALDEN and CENTNERSZWER), A., ii, 245.
uncombined, estimation of, in fermented beverages (MATHIEU and BILLON), A., ii, 582.
*trio*xide, apparatus for the preparation and collection of (WICHELHAUS), A., ii, 132.
and water, physical properties of mixtures of (KNIETSCH), A., ii, 133.
Sulphurous acid, intensifying action of, on oxidising agents (SCHAER), A., ii, 140, 603.
oxidation of, to dithionic acid (CARPENTER), T., 1; P., **1901**, 212.
estimation of, in dried fruits (BEYTHIEN and BOHRISCH), A., ii, 472.
Sulphites, reaction of, with hydrogen peroxide (NABL), A., ii, 10.
action of, on nitroprussides (FAGES), A., ii, 472.
Sulphuric acid, decomposition of chlorosulphonic acid into sulphuryl chloride and (RUFF), A., ii, 13.
and its manufacture by the contact process (KNIETSCH), A., ii, 132.
lead chamber process, theory and practice of the (LUNGE), A., ii, 315, 605; (RIEDEL), A., ii, 450, 651; (HAAGN), A., ii, 604.
physical chemistry of (SACKUR), A., ii, 252.
decrease of the vapour pressure of solutions of (SMITS), A., ii, 123.
preparation of standard solutions of (DAUVÉ), A., ii, 690.
detection of arsenic in (SEYBEL and WIKANDER), A., ii, 289; (ARNOLD and MENTZEL), A., ii, 354.
method for the titration of free and combined (MÜLLER), A., ii, 425.
Sulphur:—
Sulphuric acid, estimation of, gasometrically (RIEGLER), A., ii, 223.
estimation of, photometrically (JACKSON), A., ii, 172.
combined and free, estimation of, volumetrically, in alums (WHITE), A., ii, 476.
estimation of free, in leather (PAESSLER and SLUYTER), A., ii, 223.
estimation of, in soils (WILLIAMS), A., ii, 692.
estimation of, volumetrically, in soluble sulphates (NIKAIDO), A., ii, 692.
estimation of, in urine (FOLIN), A., ii, 352.
Sulphates, isometric anhydrous, of the form $M''SO_4$, R'_2SO_4 (MALLET), T., 1546; P., **1902**, 198.
double, of the formula $M'_2M''(SO_4)_2$, $6H_2O$, solubility of (LOCKE), A., ii, 497.
Thiosulphates, reaction of, with hydrogen peroxide (NABL), A., ii, 10.
Persulphuric acid and its salts, action of colloidal platinum on (PRICE), A., ii, 204.
estimation of (PETERS and MOODY; ALLARD), A., ii, 105.
See also Caro's acid.
Persulphuric acids (ARMSTRONG and LOWRY), A., ii, 558.
Persulphates, electrolytic preparation of, without a diaphragm (MÜLLER and FRIEDBERGER), A., ii, 450.
use of, in analysis (DAKIN), A., ii, 533.
quantitative separations by, in acid solution (DITTRICH and HASSEL), A., ii, 693.
Dithionic acid, formation of (CARPENTER), T., 1; P., **1901**, 212; (MEYER), A., ii, 14; (ANTONY), A., ii, 651.
Dithionates, electrolytic formation of (FOERSTER and FRIESSNER), A., ii, 488.
Thionic acids in the fatty series, attempts to prepare (JÖRGENSEN), A., i, 663.
Sulphur, estimation of:—
estimation of, in coal and pyrites (REITLINGER), A., ii, 692.
estimation of, in iron and steel (ANTONY), A., ii, 47.
estimation of, in iron pyrites (AUZENAT), A., ii, 104; (LUNGE), A., ii, 287.
estimation of, colorimetrically, in pig-iron (LINDLAY), A., ii, 425.
estimation of, in pig-iron by Eschka's method (STEHMAN), A., ii, 699.

Sulphur, estimation of:—
estimation of, in plants (FRAPS), A., ii, 425.
estimation of, in proteids (OSBORNE), A., i, 250.
Sun, influence of, on the vine and other plants (BERTHELOT), A., ii, 421.
Sunflower cake. See Agricultural Chemistry.
Superoxydases (RAUDNITZ), A., i, 252.
Superphosphate. See Agricultural Chemistry.
Suprarenal capsules, diastatic ferment of the (CROFTAN), A., ii, 465.
diabetes (BLUM), A., ii, 575.
glands, adrenalin from the (TAKAMINE), A., ii, 217.
nucleo-proteid of the (JONES and WHIPPLE), A., i, 731.
Suprarenin (v. FÜRTH), A., i, 68.
Surface energy, molecular, of solutions (PEKÁR), A., ii, 245.
of liquid oxygen, nitrogen, argon, and carbon monoxide, variation of the, with temperature (BALY and DONNAN), T., 907; P., **1902**, 115.
Surface tension of liquids, new method for the determination of (WHATMOUGH), A., ii, 125.
Sweat formation, the diurnal curve of (FREDERICQ), A., ii, 158.
Sweetening materials, artificial, detection of, in beer (SARTORI), A., ii, 187.
Sweet potato. See Agricultural Chemistry.
Sychnodymite, a variety of (STAHL), A., ii, 87.
Sylvic acid, its constitution and autoxidation (FAHRION), A., i, 166.
Synthesis, asymmetric (FISCHER and SLIMMER), A., i, 621.

T.

Tachyhydrite, formation of (VAN'T HOFF, KENRICK, and DAWSON), A., ii, 76.
Tænite from the Kenton Co. meteorite (FARRINGTON), A., ii, 671.
i-**Tagatosephenylmethylosazone** (NEUBERG), A., i, 661.
Talc from North Carolina (PRATT), A., ii, 407.
from the United States (MERRILL), A., ii, 462.
Tallow, Japan- (BERNHEIMER and SCHIFF), A., ii, 294.
Tallow oils, analytical constants of (GILL and ROWE), A., ii, 481.
Tanacetine-Riedel (SIEDLER and KÖRNER), A., i, 486.
Tanacetonedicarboxylic acid, formation of, from sabinene ketone (SEMMLER), A., i, 550.
Tannin, interaction of, with tartar emetic (LJUBAVIN), A., i, 161.
Tannins, action of, on the activity of yeasts (ROSENSTIEHL), A., ii, 219.
Tantalum, preparation and properties of (MOISSAN), A., ii, 266.
Tar, wood, of the Douglas fir (*Pseudotsuga taxifolia*) (BYERS and HOPKINS), A., i, 738.
composition of various (MJÖEN), A., i, 273.
"**Taran**," composition of the tanning material (SAROSEK), A., i, 816.
Tariric acid, constitution of (ARNAUD), A., i, 342, 428.
Tariric acid, α- and β-amino-, and their decomposition products (ARNAUD), A., i, 428.
Tartar emetic. See Tartaric acid, antimony potassium salt of.
Tartaric acid and its esters, rotation dispersion of (WINTHER), A., ii, 589.
compound of, with formaldehyde (STERNBERG), A., i, 259.
uranyl derivative of (ITZIG), A., i, 76.
estimation of, in grape marc (EHRMANN and LOVAT), A., ii, 480.
estimation of total, in lees and tartars (HUBERT), A., ii, 481.
estimation of, in wines (MAGNIER DE LA SOURCE), A., ii, 586.
Tartaric acid, salts, rotation of, in water and in glycerol (LONG), A., i, 75.
antimony potassium salt (*tartar emetic*), electrolysis of (v. HEMMELMAYR), A., ii, 459.
interaction of, with tannin (LJUBAVIN), A., i, 161.
ferric potassium salt, distinction between ferric citrate and (FIORA), A., ii, 235.
potassium hydrogen salt (*cream of tartar*), crude, assay of (CARLES), A., ii, 435.
sodium hydrogen salt, action of ammonium paramolybdate on the specific rotation of (KLASON and KÖHLER), A., i, 75; (ITZIG), A., i, 259.
sodium and potassium salts and ethyl sodium and potassium salts (TER BRAAKE), A., i, 742.
ethyl sodium and potassium salts, action of water on (TER BRAAKE), A., i, 742.

Tartaric acid, dimethylene ester (CHEMISCHE FABRIK AUF AKTIEN), A., i, 705.
ethyl ester, influence of benzene, toluene, *o*-, *m*-, and *p*-xylenes and of mesitylene on the rotation of (PATTERSON), T., 1097; P., **1902**, 133.
influence of naphthalene on the rotation of (PATTERSON), T., 1134; P., **1902**, 133.
di-*sec.*-octyl ester (MCCRAE), T., 1221; P., **1902**, 182.
Tartaric acid, nitro-, and its esters (FRANKLAND, HEATHCOTE, and HARTLE), P., **1902**, 250.
Tartars, estimation of total tartaric acid in (HUBERT), A., ii, 481.
Tautomeric atomic groupings (LAAR), A., i, 1.
Taxine, its mode of extraction, properties, and hydrochloride, sulphate, gold chlorides and methiodide (THORPE and STUBBS), T., 874; P., **1902**, 123.
Taxus baccata. See Agricultural Chemistry.
Tea, microchemical examination of (KLEY), A., ii, 115.
Teeth, amount of fluorine in (JODLBAUER and BRANDL), A., ii, 34.
Tellurium (KÖTHNER), A., ii, 67; (GUTBIER), A., ii, 652.
presence of, in American silver ingots (VINCENT), A., ii, 205.
atomic weight of (SCOTT), P., **1902**, 112; (KÖTHNER), A., ii, 67; (PELLINI), A., ii, 69; (GUTBIER), A., ii, 254.
allotropy of (BELJANKIN), A., ii, 134.
colloidal (GUTBIER), A., ii, 653.
pseudo-solution of (GUTBIER), A., ii, 610, 653.
Tellurium alloys with antimony (FAY and ASHLEY), A., ii, 266.
with bismuth (GUTBIER), A., ii, 558.
with lead (FAY and GILLSON), A., ii, 260.
Tellurium compounds, decomposition of, by moulds (ROSENHEIM), P., **1902**, 138.
Tellurium *tetra*chloride (LENHER), A., ii, 316.
hydride. See Hydrogen telluride.
Telluride of mercury. See Coloradoite.
Tellurides in Western Australia (HOLROYD; SIMPSON), A., ii, 509.
Tellurium iodides (GUTBIER and FLURY), A., ii, 653.
Telluric acid (GUTBIER), A., ii, 134.
and its hydrates (GUTBIER and FLURY), A., ii, 654.
Tellurium:—
Telluric acid, salts of (GUTBIER), A., ii, 558.
Tellurates, isomorphism of selenates and (NORRIS and KINGMAN), A., ii, 15.
Tellurium, detection of, in presence of arsenic and selenium by the action of Bacteria and Fungi (MAASSEN), A., ii, 629.
separation of, from bismuth (GUTBIER), A., ii, 558.
Temperature. See Thermochemistry.
Tendon, mucoids in (CUTTER and GIES), A., i, 67.
Tendon Achilles, chemical constituents of (BUERGER and GIES), A., ii, 95.
Terbium (MARC), A., ii, 505.
Terephthalic acid, methyl ester, compound of, with phosphoric acid (RAIKOW and SCHTARBANOW), A., i, 228.
Terephthalic acid, bromo-, and nitro-, conductivity of the esters of (WEGSCHEIDER), A., i, 617.
nitro-, esterification of (WEGSCHEIDER, PIESEN, and BREYER), A., i, 620.
Ternary compounds, separation of, from urine (DOMBROWSKI), A., ii, 633.
systems. See Equilibrium.
Terpane, 1:8:9-*tri*bromo- (WALLACH and RAHN), A., i, 803.
Terpene alcohols and their ethers, use of sodium salicylate in the estimation of mixtures of (DARZENS and ARMINGEAT), A., ii, 178.
Terpenes, $C_{11}H_{18}$, from carvenone and dihydrocarvone (WALLACH and THÖLKE), A., i, 723.
Terpenes and ethereal oils (WALLACH), A., i, 791, 801; (WALLACH, BÖTTICHER, SPERANSKI, and THÖLKE), A., i, 798; (WALLACH and FRESENIUS), A., i, 800; (WALLACH and RAHN), A., i, 803; (WALLACH and SCHEUNERT), A., i, 805; (WALLACH and FRANKE), A., i, 806.
derivatives of (TILDEN and BURROWS), P., **1902**, 161.
cyclic, in the organism (FROMM and HILDEBRANDT), A., ii, 159; (FROMM and CLEMENS), A., ii, 341.
Terpenylic acid from isocamphoronic acid (PERKIN), T., 258; P., **1900**, 215.
Terpinene, constitution of (HARRIES), A., i, 361.
Terpineol (m.p. 35–36°) and its phenylurethane, nitrosochloride, and nitrolepiperidide (STEPHAN and HELLE), A., i, 631.

Terpineol, mercuric compounds (SAND and SINGER), A., i, 851.
l-**Terpineol** from the oil of *Asarum canadense* (POWER and LEES), T., 63; P., **1901**, 210.
$\Delta^{8(9)}$-**Terpen-1-ol** and its urethane and nitrosochloride (STEPHAN and HELLE), A., i, 631.
reactions of (WALLACH and RAHN), A., i, 803.
tribromide (WALLACH and RAHN), A., i, 723.
Terpineols, constitution of (WALLACH and RAHN), A., i, 804.
Tesla rays. See under Photochemistry.
Tetanus toxin, chemical nature of (HAYASHI), A., i, 411.
β-**Tetra-acetylbromogalactose** (FISCHER and ARMSTRONG), A., i, 263.
Tetra-acetylchloro-dextrose and **-galactose**, synthetical experiments with (SKRAUP and KREMANN), A., i, 134.
Tetra-acetylethylgalactoside (FISCHER and ARMSTRONG), A., i, 746.
Tetra-acetylgalactose (SKRAUP and KREMANN), A., i, 135.
Tetra-acetylgluco-*o*-hydroxymandelamide, and **-*o*-hydroxyphenylethylcarbinol** (FISCHER and SLIMMER), A., i, 621.
Tetra-acetylhelicin and its cyanohydrin (FISCHER and SLIMMER), A., i, 621.
Tetra acetylmannitol dichlorohydrin (FISCHER and ARMSTONG), A., i, 264.
Tetra-acetyl-*α*- and **-*β*-methylglucoside** (MOLL VAN CHARANTE), A., i, 426.
Tetra-acetylnitrodextrose (SKRAUP and KREMANN), A., i, 134.
αγγε-**Tetra-amyl-*αε*-diphenylpentane**, *tetra*thio- (POSNER), A., i, 298.
Tetra-aquodipyridinechromium salts. See under Chromium.
Tetra-azo-*oo*-dimethoxydiphenyl chloride, rate of decomposition of (CAIN and NICOLL), T., 1440; P., **1902**, 186.
Tetra-azodiphenyl chlorides, and *oo-di*chloro-, rates of decomposition of (CAIN and NICOLL), T., 1438; P., **1902**, 186.
Tetra-azoditolyl chloride, rate of decomposition of (CAIN and NICOLL), T., 1439; P., **1902**, 186.
Tetra-azoditolylsulphonic acid, sodium salt, compounds of, with aromatic amines and phenols (SEYEWETZ and BIOT), A., i, 509.
Tetra-azonium chlorides, action of, on acetylacetone and its substituted derivatives (FAVREL), A., i, 507.
action of acylcyanoacetic esters on (FAVREL), A., i, 406.
Tetra-azonium chlorides, action of, on alkylacetylacetones (FAVREL), A., i, 508.
action of cyanoacetic esters and their derivatives on (FAVREL), A., i, 329.
action of, on malonic esters (FAVREL), A., i, 506.
ββγγ-**Tetrabenzyl-thiol-** and **-sulphonebutane** (POSNER), A., i, 220.
ββεε-**Tetrabenzyl-thiol-** and **-sulphonehexane** (POSNER), A., i, 221.
γγζζ-**Tetrabenzyl-thiol-** and **-sulphone-*β*-methylheptane** (POSNER), A., i, 221.
*β*3*δδ*-**Tetrabenzylthiolpentane** (POSNER), A., i, 221.
Tetracarbimide and its salts (SCHOLTZ), A., i, 140.
Tetracosane (MABERY), A., i, 734.
Tetradecane and *mono-* and *di*-chloro- (MABERY), A., i, 733.
4:4′-Tetraethyl*di*aminodiphenylmethane, compounds of, with 1-chloro-2:4-*di*nitrobenzene and picric acid (LEMOULT), A., i, 751.
Tetrahydrobrucine and its salts (TAFEL and NAUMANN), A., i, 53.
Tetrahydrocarvone*iso*oxime (WALLACH and FRESENIUS), A., i, 800.
ar-**Tetrahydro-*β*-naphthalene**, diazoamino-compounds of (SMITH), T., 900; P., **1902**, 137.
ar-**Tetrahydronaphthaleneazo-*β*-naphthol** (SMITH), T., 903; P., **1902**, 137.
Tetrahydro-*β*-naphthaleneazo-*β*-naphthylamine (SMITH), T., 906; P., **1902**, 137.
β-**Tetrahydronaphthalide**, and its acetyl and benzoyl derivatives (SCHARWIN), A., i, 626.
Tetrahydronaphthoic anilide (SCHARWIN), A., i, 626.
Tetrahydronaphthyl methyl ketone and its oxime (SCHARWIN), A., i, 625.
Tetrahydroquinoline-6-, -7-, and **-8-carboxylic acids**, action of alkyl iodides on, and their nitrosoamines (FISCHER and ENDRES), A., i, 693.
Tetrahydrostrychnine (TAFEL and NAUMANN), A., i, 53.
Tetrahydrotoluene. See Methyl*cyclo*hexene.
Tetrahydro-*p*-tolyl methyl ketone and its oxime, dibromo-oxime and semicarbazone (WALLACH and RAHN), A., i, 723.
4-Tetrahydroxybutyl-1-allyl- and **-1-phenyl-iminoazolyl-2-mercaptan** (NEUBERG and WOLFF), A., i, 84.
3:3′:4′:5′-Tetrahydroxyflavone, and its **tetra-acetyl derivative** (v. KOSTANECKI and PLATTNER), A., i, 690.

Tetrahydroxyhexoic acid, chloro-. See Galactonic acid, chloro-.
Tetrahydroxysylvic acid (FAHRION), A., i, 166.
Tetrahydroxyvaleric acid. See Apionic acid.
2:4:6:4′-Tetramethoxybenzoylacetophenone phenylhydrazone (v. KOSTANECKI and TAMBOR), A., i, 471.
2:4:6:3′-Tetramethoxy-4′-ethoxybenzoylacetophenone phenylhydrazone (v. KOSTANECKI and TAMBOR), A., i, 471.
3:3′:4′:5′-Tetramethoxyflavone (v. KOSTANECKI and PLATTNER), A., i, 690.
Tetramethoxy*di*nitrodibenzyl (GILBODY and PERKIN), T., 1051; (BOLLINA, v. KOSTANECKI, and TAMBOR), A., i, 482; (v. KOSTANECKI and PAUL), A., i, 686.
Tetramethyl*di*aminoacetic acid, methyl ester (WILLSTÄTTER), A., i, 349.
oo-**Tetramethyl*di*aminoarseno-*p*-toluene** (MICHAELIS and EPPENSTEIN), A., i, 415.
Tetramethyl*di*aminobenzhydrol, condensation of, with primary aromatic amines in which the para-position is occupied (GUYOT and GRANDERYE), A., i, 398.
ethers and anhydride of (FISCHER and WEISS), A., i, 402.
Tetramethyl*di*aminobenzophenone and its salts (BERTRAM), A., i, 437.
4:4′-Tetramethyl*di*aminodiphenylmethane, compounds of, with 1-chloro-2:4-*di*- and -2:4-6-*tri*-nitrobenzene, 2:4-*di*nitrophenol, picric acid and picramide (LEMOULT), A., i, 751.
4:4′-Tetramethyl*di*aminodiphenylmethane, 2-amino-, and 2-*mono*- and *di*nitro- (ULLMANN and MARIĆ), A., i, 182.
Tetramethyl*di*aminodiphenylmethyl oxide (MÖHLAU and HEINZE), A., i, 243.
sulphides (MÖHLAU, HEINZE, and ZIMMERMANN), A., i, 245.
Tetramethyl*di*aminodiphenylmethylimine (MÖHLAU and HEINZE), A., i, 243; (MÖHLAU, HEINZE, and ZIMMERMANN), A., i, 244.
Tetramethyl*di*aminodiphenylmethyl*di*thiocarbamic acid, leucauramine salt and tetramethyl*di*aminodiphenylmethyl ester of (MÖHLAU, HEINZE, and ZIMMERMANN), A., i, 245.
Tetramethyl*di*aminomalonic acid and its methyl ester (WILLSTÄTTER), A., i, 350.
2:8-Tetramethyl*di*amino-10-methylacridinium nitrate (ULLMANN and MARIĆ), A., i, 182.
Tetramethyl*di*aminonaphthaphenoxazonium chloride (FUSSGANGER), A., i, 279,
Tetramethyl*di*aminophenotolazo-oxonium chloride and iodide (MÖHLAU, KLIMMER and KAHL), A., i, 839.
Tetramethyl*di*aminophenotoloxazine (MÖHLAU, KLIMMER, and KAHL), A., i, 839.
Tetramethyl*di*aminothioxanthone and its salts and *tri*bromo-derivative (BIEHRINGER and TOPALOFF), A., i, 695.
2:4-Tetramethyl*di*aminotoluene and its additive compounds (MORGAN), T., 653; P., **1902**, 87.
4:6-Tetramethyl*di*amino-*m*-xylene and its additive salts (MORGAN), T., 654; P., **1902**, 87.
1:3:4:5-Tetramethyl-benziminazoleol and **-benziminazole** methiodide (FISCHER, RIGAUD and KOPP), A., i, 189.
Tetramethylcatechin and its acetyl derivative (v. KOSTANECKI and TAMBOR), A., i, 553.
Tetramethyldehydrobrazilins, α-, β-, and γ- (HERZIG and POLLAK), A., i, 483.
Tetramethylhæmatoxylin, oxidation of, with chromic acid (PERKIN), T., 1057; P., **1899**, 28.
oxidation of, with permanganate (PERKIN and YATES), T., 240; P., **1899**, 27, 75, 241; **1900**, 107.
Tetramethylhæmatoxylone (PERKIN), T., 1060; P., **1899**, 28.
5:7:5′:7′-Tetramethylindigotin (KUHARA and CHIKASHIGÉ), A., i, 227.
Tetramethyl-*m*-phenylenediamine (MORGAN), T., 655; P., **1902**, 87.
2:2:5:5-Tetramethylpyrrolidine, 3-amino-, and its acetyl compounds, additive salts, carbamate and thiocarbamates (PAULY), A., i, 559.
2:2:5:5-Tetramethyl-Δ^3-pyrroline and its additive salts (PAULY), A., i, 559.
1:3:7:8-Tetramethylxanthine (BOEHRINGER & SÖHNE), A., i, 504.
2:5:7:10-Tetraoxy-1:6-di-*p*-xylyl-3:8-di*iso*propylphenazine, 4:9-*di*bromo- and -*di*chloro- (BÖTERS), A., i, 474.
Tetraoxysylvic acid (FAHRION), A., i, 166.
Tetraphenylarsenic compounds (MICHAELIS and WEBER), A., i, 515.
Tetraphenylhydrazodicarbonamidine (BUSCH and ULMER), A., i, 574.
2:3:5:6-Tetraphenyl-*s*-piperazine and its salts (SCHMIDT), A., i, 500.
ββεε-Tetraphenyl-thiol- and **-sulphonehexane** (POSNER), A., i, 221.

1:2:4:5-Tetra-*o*-, -*m*-, and -*p*-tolylhexahydro-1:2:4:5-tetrazines, and the 3:6-dimethyl derivative of the para-compound (RASSOW and RÜLKE), A., i, 404.

Tetrazoline and the action of methyl iodide on (RUHEMANN and STAPLETON), T., 261; P., **1902**, 30.

Tetronic acid, condensation products of (WOLFF, GABLER, and HEYL), A., i, 676.

Thalenite, composition of (HILLEBRAND), A., ii, 270.

Thallium alloys (KURNAKOFF and PUSHIN), A., ii, 139.

Thallium haloids, compounds of, with alkaloidal hydracids (RENZ), A., i, 393, 822.

and their compounds with the halogen acids (THOMAS), A., ii, 322.

chlorides, constitution of (CUSHMAN), A., ii, 322.

chlorobromides of the type Tl_4X_6 (THOMAS), A., ii, 79.

nitrate, spectrum of (HARTLEY), T., 561; P., **1902**, 68.

Thallic alums (PICCINI and FORTINI), A., ii, 607.

chloride (CUSHMAN), A., ii, 322; (MEYER), A., ii, 658.

cæsium sulphates (LOCKE), A., ii, 397.

Thallous sulphates (STORTENBEKER), A., ii, 397.

manganous sulphate, anhydrous (MALLET), T., 1550; P., **1902**, 198.

Thallium organic compounds:—

Thallic chloride, compounds of, with organic bases (RENZ; MEYER), A., i, 393.

action of, on dimethyl-aniline, and -*o*-toluidine, and on diphenylmethylamine (RENZ), A., i, 823.

Thallium double cyanides (FISCHER and BENZIAN), A., i, 272.

Thallium, estimation of:—

estimation of, volumetrically (THOMAS), A., ii, 357, 472.

estimation of, in the thallous state (THOMAS), A., ii, 531.

Thamnolin (ZOPF), A., i, 789.

Theine. See Caffeine.

Theobroma Cacao, oleodistearin in the fat of the seeds of (FRITZWEILER), A., ii, 470.

Theophyllin, behaviour of, in the dog (KRÜGER and SCHMID), A., ii, 680.

THERMOCHEMISTRY:—

Thermochemical action of solutions of ammoniacal cupric oxide on solutions of ammonium, potassium, and calcium salts (BOUZAT), A., ii, 550.

THERMOCHEMISTRY:—

Thermodynamics and velocity of reaction, relations between, and simultaneous equilibrium of homogeneous systems (WEGSCHEIDER), A., ii, 9.

and the dissociation theory for binary electrolytes (PLANCK), A., ii, 597.

of concentrated solutions (SCHÜKAREFF), A., ii, 4; (VAN LAAR), A., ii, 122.

Heat developed by the action of oxygen on alkaline pyrogallol (BERTHELOT), A., ii, 4.

Thermal equivalent of dissociation and vaporisation (DE FORCRAND), A., ii, 379.

expansion coefficient of nitric acid (VELEY and MANLEY), A., ii, 316.

properties of carbon dioxide and of ethane (KUENEN and ROBSON), A., ii, 595.

Temperature, influence of, on the conductivity and dielectric constant of solvents and solutions (EVERSHEIM), A., ii, 596.

low, production and maintenance of (D'ARSONVAL), A., ii, 122.

influence of, on warm-blooded animals (FALLOISE), A., ii, 149.

of maximum density of solutions of barium bromide and iodide and of calcium bromide, chloride, and iodide (DE COPPET and MULLER), A., ii, 488.

of ignition, effect of pressure on the (SPRING), A., ii, 59.

Temperature coefficients of the ions in water (KOHLRAUSCH), A., ii, 489.

Temperature variations of the specific molecular conductivity and of the fluidity of sodium chloride solutions (LYLE and HOSKING), A., ii, 440.

Inversion temperature of Kelvin effect for hydrogen (OLSZEWSKI), A., ii, 444.

of the hydrates of barium acetate (WALKER and FYFFE), P., **1902**, 247.

Critical constants. See under Critical.

Thermometer of light petroleum (BAUDIN), A., ii, 194.

Thermoregulator (PATTERSON), A., ii, 389.

sensitiveness of a (MENZIES), P., **1902**, 10.

Thermostats and **Thermoregulators** (GEER), A., ii, 378.

Thermostat sensitive to $\frac{1}{1000}$ of a degree (BRADLEY and BROWNE), A., ii, 378.

THERMOCHEMISTRY:—*Heat of combustion=c.; of dissociation=dis.; of formation=f.; of hydration=h.; of neutralisation=n.*

Atomic heat and conductivity of metals (STREINTZ), A., ii, 595.
Atomic and **Molecular** heats of fusion (ROBERTSON), T., 1233; P., **1902**, 131.
Specific heat and heat of vaporisation of organic compounds of high boiling point (LUGININ), A., ii, 547.
and heat of vaporisation of paraffins and cyclic hydrocarbons (MABERY and GOLDSTEIN), A., ii, 548.
of gases (CROMPTON), P., **1902**, 188.
of liquids (CROMPTON), P., **1902**, 236.
of distilled metals (KAHLBAUM, ROTH, and SIEDLER), A., ii, 259.
of vanadium (MATIGNON and MONNET), A., ii, 326.
of milk (FLEISCHMANN), A., ii, 518.
of petroleums (MABERY and GOLDSTEIN), A., ii, 549.
of substances at the absolute zero (PONSOT), A., ii, 378.
Heat of combination, minimum value of the total (DE FORCRAND), A., ii, 60.
Heat of combustion of cyclic compounds (ZUBOFF), A., i, 144.
Heat of dilution, inversion points of (COLSON), A., ii, 4, 198.
of sodium sulphate (COLSON), A., ii, 551.
Heat of dissociation in benzene solution (INNES), T., 705; P., **1902**, 27.
Latent heat of fusion of solid ammonia (MASSOL), A., ii, 378.
Heat of inversion of sucrose (PETIT), A., i, 205.
Heat of reduction of metallic hydroxides (CARPENTER), T., 2; P., **1901**, 212.
Heat of solidification of ammonia (DE FORCRAND), A., ii, 379.
Latent heat of solidification of liquid ammonia (DE FORCRAND and MASSOL), A., ii, 379.
Heat of vaporisation and critical phenomena, theory of the (TRAUBE), A., ii, 551.
and specific heat of organic compounds of high boiling point (LUGININ), A., ii, 547.
and specific heat of paraffins and cyclic hydrocarbons (MABERY and GOLDSTEIN), A., ii, 548.
Latent heat of vaporisation, formula for (FINDLAY), A., ii, 386.
determination of (KAHLENBERG), A., ii, 195.
relation of, to vapour density (KURBATOFF), A., ii, 379.
Latent heat of vaporisation of ammonia (DE FORCRAND), A., ii, 379.
Thermochemical data of alloys of aluminium with zinc (*f.*) (LUGININ and SCHÜKAREFF), A., ii, 259.
of compounds of aluminium chloride with the alkali chlorides (*f.*) (BAUD), A., ii, 142.
of ammoniacal cupric oxide (*f.* and *n.*) (BOUZAT), A., ii, 490.
of cuprammonium chlorides (*f.*) (BOUZAT), A., ii, 608.
of chlorine hydrate (*f.*) (DE FORCRAND), A., ii, 123.
of pyrophosphoric acid (*n.*) (GIRAN) A., ii, 549.
of potassium pervanadate (*f.*) (PISSARJEWSKY), A., ii, 327.
of strontium hydride (*f.*) (GUNTZ), A., ii, 394.
of zinc oxide (*f.*) (DE FORCRAND), A., ii, 489.
of zinc oxide (*h.*) (DE FORCRAND), A., ii, 549.
of acetylene, ethylene, and methane (*c.* and *dis.*) (MIXTER), A., ii, 60.
Heat of solution, relation between, and the shape of a solubility curve (LUMSDEN), T., 367; P., **1902**, 32.
new method of representing (ROOZEBOOM), A., ii, 61.
methods of determining, at the point of saturation (V. STACKELBERG), A., ii, 489.
of compounds of aluminium chloride with the alkali chlorides (BAUD), A., ii, 142.
of solid and liquid ammonia (MASSOL), A., ii, 378.
of pyrophosphoric acid and its sodium salts (GIRAN), A., ii, 550.
Thermometer, Thermoregulator, and **Thermostat.** See Thermochemistry.
Thiazine colouring matters (AKTIEN GESELLSCHAFT FÜR ANILIN-FABRIKATION), A., i, 495, 496.
constitution of, and their relation to azonium compounds (KEHRMANN), A., i, 566.
Thio-albumose. See Albumose.
Thioamides, detection of (TSCHUGAEFF), A., i, 631.
*di***Thiocarbamic acid**, esters, from primary amines (DELÉPINE), A., i, 595.
from secondary amines (DELÉPINE), A., i, 702.
methylene and ethylene esters (WHEELER and MERRIAM), A., i, 537.

Thiocarbamide and ammonium thiocyanate, "dynamic isomerism" of (REYNOLDS and WERNER), P., **1902**, 207.
hydrochloride (STEVENS), T., 79; P., **1901**, 210.
Thiocarbamides, action of hydrazine hydrate on (BUSCH and ULMER), A., i, 575.
detection of (TSCHUGAEFF), A., i, 631.
Thiocarbimides and thiocyanates (WHEELER and JOHNSON), A., i, 28, 760; (WHEELER and MERRIAM), A., i, 537; (WHEELER and JAMIESON), A., i, 762.
*di***Thiocarbonates**, cyclic, limits to the formation of (BUSCH and LINGENBRINK), A., i, 573.
*di***Thiocarbonic acid**, esters, imino-, preparation and properties of (DELÉPINE), A., i, 199.
mixed esters, imino- (DELÉPINE), A., i, 597.
Thiocyanic acid, influence of, on the growth of *Aspergillus niger* (FERNBACH), A., ii, 577.
iodometry of (RUPP and SCHIEDT), A., ii, 538; (THIEL), A., ii, 706.
Thiocyanates and thiocarbimides (WHEELER and JOHNSON), A., i, 28, 760; (WHEELER and MERRIAM), A., i, 537; (WHEELER and JAMIESON), A., i, 762.
yellow colouring matter from (GOLDBERG), A., i, 137.
Thiocyanogen, and **ψ-Thiocyanogen** (GOLDBERG), A., i, 137.
Thionic acids. See under Sulphur.
Thionyl chloride. See under Sulphur.
Thio-oxyarsenic acids (LE ROY and MCCAY), A., ii, 135, 655.
Thiophen, new colour reaction of (KREIS), A., ii, 535.
α-Thiophencarboxylic acid, azoimide and hydrazide, and the acyl, benzylidene and β-propylidene derivatives of the hydrazide (CURTIUS and THYSSEN), A., i, 304.
α-Thiophenurethane (CURTIUS and THYSSEN), A., i, 305.
Thiopyronine and its salts (BIEHRINGER and TOPALOFF), A., i, 695.
Thiosulphates. See under Sulphur.
Thiuram and *iso***Thiuram** *di*sulphides (v. BRAUN), A., i, 271.
*iso***Thiuram** *di*sulphides (DELÉPINE), A., i, 703.
Thomsonite from Schiket (Colonia Eritrea) (D'ARCHIARDI), A., ii, 408.
Thorium, radioactive (HOFMANN and ZERBAN), A., ii, 211.
Thorium, condensation point of emanations from (RUTHERFORD and SODDY), P., **1902**, 219.
new element associated with (BASKERVILLE), A., ii, 85.
Thorium compounds, radioactivity of (RUTHERFORD and SODDY), T., 321, 837; P., **1902**, 2, 120.
Thorium hydroxide, action of hydrogen peroxide and of sodium hypochlorite on (PISSARJEWSKY), A., ii, 565.
oxide, radioactivity induced by (HENNING), A., ii, 297.
tellurate (GUTBIER), A., ii, 558.
Metathorium oxychloride (STEVENS), A., ii, 566.
Thorium, estimation of, in monazite sand (BENZ), A., ii, 431.
precipitation and separation of, from thorium earths (KOLB), A., ii, 584.
separation of (METZGER), A., ii, 431.
Thujamenthoketonic acid and its silver salt and semicarbazone (WALLACH), A., i, 802.
Thujamenthone, oxidation of (WALLACH), A., i, 802.
Thujamenthoneketolactone and its oxime, phenylhydrazone and semicarbazone (WALLACH), A., i, 802.
Thujamenthylamine and its acetyl and benzoyl derivatives, carbamide, phenylcarbamide, and phenylthiocarbamide (WALLACH), A., i, 802.
Thujone, constitution of (WALLACH), A., i, 803.
constitution of, and its oxime (KONDAKOFF), A., i, 807.
*iso***Thujone**, oxidation of (WALLACH), A., i, 801.
Thujonehydrateglycuronic acid (FROMM and HILDEBRANDT), A., ii, 160.
*iso***Thujone-ketolactone** and its semicarbazone and **-oxime** and its phenylhydrazone (WALLACH), A., i, 801.
Thujyl bromide and chlorides (KONDAKOFF), A., i, 807.
Thujyl-phenylthiocarbimide and **-thiocarbimide** (v. BRAUN and RUMPF), A., i, 275.
Thujyl series, isomeric changes in the (KONDAKOFF), A., i, 807.
Thymine, synthesis of (FISCHER and ROEDER), A., i, 124, 188.
Thymol, preparation of (DINESMANN), A., i, 368.
estimation of, volumetrically (ZDAREK), A., ii, 536.
Thymolmercury salts (DIMROTH), A., i, 850.
Thymoquinone, dihalogen, reactions of, with amines (BÖTERS), A., i, 473.

Thymoquinonethymolimine and its ethyl ether (DECKER and v. SOLONINA), A., i, 767.

Thymyl ethyl ether, action of nitric acid on (DECKER and v. SOLONINA), A., i, 767.

Thymyl ethyl ether, 2-*mono*- and 2:6-*di*-amino-, 2-nitro-6-amino-, and 6-nitro-, and their salts and acetyl and benzoyl derivatives (GAEBEL), A., i, 768.

2:6-*di*nitro-, reduction of (GAEBEL), A., i, 767.

Thyreo-globulin (OSWALD), A., ii, 677.

Tin, enantiotropy of (COHEN), A., ii, 266.

Tin alloys with aluminium (GUILLET), A., ii, 84.

with antimony, copper, iron, and lead, analysis of (PONTIO), A., ii, 478.

with copper (HEYCOCK and NEVILLE), A., ii, 261.

with lithium (LEBEAU), A., ii, 256.

Tin ammonium chloride (pink salt), technical estimation of tin in solutions of (GEISEL), A., ii, 534.

Stannous bromide and chloride, precipitation of, by sulphuric acid (VIARD), A., ii, 606.

chloride, compound of, with pyridine (HAYES), A., i, 492.

titration with (WEIL), A., ii, 231.

Metastannic acid, behaviour of hydrochloric acid solutions of, towards hydrogen sulphide (JÖRGENSEN), A., ii, 26.

Tin, estimation of:—

estimation of, by Lenssen's method (MULLER), A., ii, 177.

estimation of, in alloys (RICHARDS), A., ii, 701.

technical estimation of, in solutions of pink salt (GEISEL), A., ii, 534.

antimony, and arsenic, separation of (WALKER), P., **1902**, 246; (LANG, CARSON, and MACKINTOSH), A., ii, 530; (LANG and CARSON), A., ii, 700.

separation of, from antimony, copper and lead (RÖSSING), A., ii, 230.

Tin ores, analysis of (MULLER), A., ii, 177.

Tin sponge and **crystals** formed by electrolysis (PFANHAUSER), A., ii, 265.

Tissues, silicic acid in the (SCHULZ), A., ii, 275.

extracts of, physiological action of (VINCENT and SHEEN), A., ii, 519.

of aquatic animals, molecular concentration of the (FREDERICQ), A., ii, 94.

elastic, composition of (RICHARDS and GIES), A., i, 410.

(*Tolyl compounds Me* = 1.)

Tissues, nerve. See Nerve.

subcutaneous, changes in the composition of gas injected into the (PLUMIER), A., ii, 150.

Titaniferous iron ore from German East Africa (BORNHARDT and KÜHN), A., ii, 658.

separation of, in basic igneous rocks (VOGT), A., ii, 32.

Titanium alloys (STAVENHAGEN and SCHUCHARD), A., ii, 265.

Titanium, quadrivalent, thiocyanates of (ROSENHEIM and COHN), A., ii, 26.

Titanium, estimation of (WATERHOUSE), A., ii, 476.

Titanomagnetite from Croustet, Haute-Loire (ARSANDAUX), A., ii, 329.

Toad, active components of the secretions of the skin glands of the (FAUST), A., i, 446.

common, venom of the (PHISALIX and BERTRAND; BERTRAND), A., ii, 576.

Toads, poison of (PRÖSCHER), A., ii, 278.

Tobacco, aroma of (FRÄNKEL and WOGRINZ), A., ii, 470.

influence of iron on the combustibility of (AMPOLA and JOVINO), A., ii, 470.

See also Agricultural Chemistry.

o-**Tolidine** and its dipicrate, and dyes from its diazotisation (SCHULTZ and FLACHSLÄNDER), A., i, 751.

m-**Tolualdehyde**, condensation of, with ethyl cyanoacetate (GUARESCHI), A., i, 819.

p-**Tolualdehyde**, condensation of, with benzyl methyl ketone (GOLDSCHMIEDT and KRCZMAŘ), A., i, 41.

action of, on 2-picoline and 6-phenyl-2-methylpyridine (DIERIG), A., i, 826.

condensation of, with quinaldine (v. GRABSKI), A., i, 563.

compound of, with phosphoric acid (RAIKOW and SCHTARBANOW), A., i, 228.

Toluene, influence of, on the rotation of ethyl tartrate (PATTERSON), T., 1097; P., **1902**, 133.

Toluene, 2:4-*di*bromo-5-nitro-, and 2:4-*di*bromo-3:5-*di*nitro-, and their reduction (DAVIS), T., 870; P., **1902**, 118.

six *di*chloro-derivatives, chlorination of, in presence of the aluminium-mercury couple (COHEN and DAKIN), T., 1324; P., **1902**, 183.

(*Tolyl compounds Me* = 1.)

Toluene, six *tri*chloro-derivatives, preparation, nitration, and oxidation of (COHEN and DAKIN), T., 1327; P., **1902**, 183.

six *di*chloro-*mono*- and -*di*-nitro-derivatives, constitution of (COHEN and DAKIN), T., 1344; P., **1902**, 184.

2- and 4-chloronitroamino-3:5-*di*bromo- (ORTON), T., 968; P., **1902**, 175.

ω-chloro-ω-nitroso- (PILOTY and STEINBOCK), A., i, 736.

nitro-derivatives, action of light on (CIAMICIAN and SILBER), A., i, 434.

2:4:6-*tri*nitro-, reduction of, with hydrogen sulphide (COHEN and DAKIN), T., 26; P., **1901**, 214.

2- and 4-nitroamino-3-5-*di*bromo- (ORTON), T., 813; P., **1902**, 111.

***p*-Toluene-5-azo-4:6-*di*amino-*m*-xylene** (MORGAN), T., 95; P., **1901**, 237.

***p*-Toluene-3-azo-5-chloro-2:4-tolylenediamine** (MORGAN), T., 96; P., **1901**, 237.

***p*-Tolueneazo-*p*-nitrobenzene** (BAMBERGER), A., i, 509.

***p*-Tolueneazo-*p*-phenoxyacetic acid** (MAI and SCHWABACHER), A., i, 127.

***p*-Toluenediazoaminotetrahydro-β-naphthalene** (SMITH), T., 902; P., **1902**, 137.

***m*-Toluene*anti*-diazotate**, and **-diazohydrate**, 2:4:6-*tri*bromo- (HANTZSCH and POHL), A., i, 843.

***p*-Toluene*anti*-diazotates** and **-diazohydrates**, *p*-*mono*- and 2:6-*di*-bromo-, and *o*- and *p*-nitro- (HANTZSCH and POHL), A., i, 843.

Toluene-2:4-disulphone-anilide, and **-*o*- and -*m*-toluidides** (TRÖGER and MEINE), A., i, 537.

***o*-Toluenesulphinic acid**, amide of (BASLER CHEMISCHE FABRIK), A., i, 96.

Toluene-*p*-sulphobromoallylamide (RUDZICK), A., i, 24.

***p*-Toluenesulphonalkylamides**, action of nitric acid on (VAN ROMBURGH), A., i, 601.

***p*-Toluenesulphon-bromoethylamide** and **-β-naphthoxymethylethylamide** (MARCKWALD and FROBENIUS), A., i, 22.

Toluene-*p*-sulphondiphenylamide and *o*- and *p*-*di*nitro- (REVERDIN and CRÉPIEUX), A., i, 434.

Toluene-*p*-sulphonic acid and *o*-nitro-, and their phenyl and tolyl esters (REVERDIN and CRÉPIEUX), A., i, 434.

Toluene-*o*-sulphonic chloride (BASLER CHEMISCHE FABRIK), A., i, 363.

(*Tolyl compounds Me* = 1.)

Toluene-*p*-sulphonic chloride and *o*-nitro-derivatives of (REVERDIN and CRÉPIEUX), A., i, 238.

Toluene-*p*-sulphon-*o*- and -*p*-toluidides and their nitro-derivatives (REVERDIN and CRÉPIEUX), A., i, 434.

***m*-Toluic acid** and nitrile, 4-amino- (EHRLICH), A., i, 26.

***p*-Toluic acid**, electrolytic oxidation of (LABHARDT), A., i, 289.

hydrazine derivative (CURTIUS and FRANZEN), A., i, 832.

Toluic acids, *o*-, *m*-, and *p*-, chloromethyl and methylene esters (DESCUDÉ), A., i, 339.

***o*-Toluidine**, 5-nitro-, methylation of, and its hydrobromide (STADEN), A., i, 444.

6-nitro-, and its hydrobromide and hydrochloride, and methylation of (v. TATSCHALOFF) A., i, 443.

***m*-Toluidine**, 5-nitro-, methylation of, and its hydrobromide (HAIBACH), A., i, 443.

***p*-Toluidine**, 2-nitro-, methylation of, and its hydrobromide (HAIBACH), A., i, 444.

5-Toluidine, 2:4-*di*bromo-, and its acetyl derivative (DAVIS), T., 872; P., **1902**, 118.

6-Toluidine, 2:4-*di*nitro- (COHEN and DAKIN), T., 28; P., **1901**, 214.

Toluidines, coupling of, with diazo-compounds (MEHNER), A., i, 576.

***o*-Toluidinoacrylic acid**, *o*-toluidide of (DAINS), A., i, 603.

***p*-Toluidinomethylenebenzyl** cyanide (DAINS), A., i, 603.

Toluidinomethylenemalonic acids, *o*- and *p*-, and their ethyl esters, *o*- and *p*-toluidides of (DAINS), A., i, 603.

7-*p*-Toluidino-1-nitroanthraquinone (FARBENFABRIKEN VORM. F. BAYER & Co), A., i, 382.

***p*-Toluidino-phosphoryl chloride** and **-phosphamic acid** (CAVEN), T., 1367; P., **1901**, 27.

5-*m*-Toluidino-2-*iso*propylbenzoquinone, 3:6-*di*bromo- (BÖTERS), A., i, 473.

5-*p*-Toluidino-2-*iso*propylbenzoquinone, 3-6-*di*chloro- (BÖTERS), A., i, 474.

***p*-Toluidino-*p*-toluquinoneoxime**, formation of (BÖRNSTEIN), A., i, 165.

***o*-Tolunaphthacridine** (ULLMANN), A., i, 119.

***p*-Toluoyltartaric acid**, ethyl ester, nitration of (FRANKLAND, HEATHCOTE, and GREEN), P., **1902**, 251.

Toluquinol, *penta*bromo- and its acetate (ZINCKE and WIEDERHOLD), A., i, 285.

(*Tolyl compounds Me* = 1.)

Toluquinol, *tetra*bromo- and *tetra*chloro-, and their diacetyl derivatives (RICHTER), A., i, 163.

*tetra*chlorobromo-, and its acetate (ZINCKE and WIEDERHOLD), A., i, 283.

p-**Toluquinophthalone** tetrabromide (EIBNER and MERKEL), A., i, 495.

p-**Toluthioquinanthrene** tetranitrate and disulphate and hydrochloride of the acetyl compound (EDINGER and EKELEY), A., i, 231.

Tolyl methyl ethers, *o*- and *p*-, condensation of, with benzaldehyde (FEUERSTEIN and LIPP), A., i, 769.

p-**Tolyl** thiocyanate and disulphide (RABAUT), A., i, 673.

N-*o*-**Tolylacetimino-ethyl ether** hydrochloride (LANDER), T., 597 ; P., **1902**, 73.

o-**Tolylallophanic acid**, ethyl ester (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1571.

p-**Tolylamino-***m*-**hydroxybenzyl alcohol** (GNEHM and VEILLON), A., i, 288.

p-**Tolylamino-***m*-**hydroxyphenyl-***μ*-**cyanoazomethine-***p*-**nitrobenzene** (GNEHM and VEILLON), A., i, 287.

p-**Tolylamino-α-naphthyl-4-cyanoazomethine-***p*-**nitrophenyl** (GNEHM and RÜBEL), A., i, 145.

m-**Tolylarsenic** compounds (MICHAELIS and EISENLOHR), A., i, 415.

p-**Tolylarsenic** compounds (MICHAELIS, ULRICH, ZIEGLER, and EPPENSTEIN), A., i, 413.

p-**Tolylazoacetaldoxime**, constitution of (VOSWINCKEL), A., i, 844.

o-**Tolylazobenzoylacetic acid**, ethyl ester (BÜLOW and HAILER), A., i, 326.

p-**Tolylazocarbonamide** (BAMBERGER), A., i, 509.

N-*o*- and -*p*-**Tolylbenzimino-ethers** (LANDER), T., 595; P., **1902**, 73.

o-**Tolylbiuret** (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1571.

p-**Tolyl butyl ketone** and its semicarbazone (BLAISE), A., i, 164.

m-**Tolylcyanamide** and its benzoyl derivative (HELLER and BAUER), A., i, 445.

p-**Tolylcyanamide**, and its salts and benzoyl derivative (HELLER and BAUER), A., i, 445.

p-**Tolyldialkylarsines** and their salts (MICHAELIS and KLATT), A., i, 413.

3-Tolyl-2:4-dibutyl-α-naphtha*iso***oxazine** (BETTI), A., i, 57.

p-**Tolyldicarbylamine**, combination of, with toluidine, and with sulphur (SABANÉEFF, RAKOWSKY, and PROSIN), A., i, 604.

(*Tolyl compounds Me* = 1.)

1-*o*-**Tolyl-2:5-dimethylpyrrole-3:5-dicarboxylic acid** and *m*-amino- (BÜLOW and LIST), A., i, 312.

1-*m*-**Tolyl-2:5-dimethylpyrrole** and its **3:4-dicarboxylic acid** (BÜLOW and LIST), A., i, 312.

1-*p*-**Tolyl-2:5-dimethylpyrrole-3:4-dicarboxylic acid**, amino-, and its acid salts (BÜLOW and LIST), A., i, 238.

o-**Tolylenebis-2:5-dimethylpyrrole-3:4-dicarboxylic acid** and its ethyl ester and acid silver salt (BÜLOW and LIST), A., i, 237.

p-**Tolylenebis-2:5-dimethylpyrrole-3:4-dicarboxylic acid** and its ethyl ester (BÜLOW and LIST), A., i, 312.

m-**Tolylenediamine**, methylation of (MORGAN), T., 653 ; P., **1902**, 87.

2:4-Tolylenediamine, nitroso- (TÄUBER and WALDER), A., i, 118.

p-**Tolylenediamine**, difference of basicity of the amino-groups in (BÜLOW and LIST), A., i, 312.

s-**Tolylenediamine** and its diacetyl derivative (DAVIS), T., 873 ; P., **1902**, 118.

Tolylenediamines, 2:4- and 3:5-, 5- and 2-chloro-, and their acyl derivatives (MORGAN), T., 95 ; P., **1901**, 237.

o-**Tolyl ethyl ketone** and its semicarbazone (BLAISE), A., i, 164.

β-*p*-**Tolylglutaranil**, *β*-*p*-**Tolylglutaranilic acid**, and *β*-*p*-**Tolylglutaric acid** and its salts and anhydride (AVERY and PARMELEE), A., i, 679.

p-**Tolylglyoxalosazone** and *p*-**Tolylglyoxal bisphenylmethylhydrazone** (KUNCKELL and VOSSEN), A., i, 645.

Tolyl group, migration of the, in *as*-phenyltolylethylene (TIFFENEAU), A., i, 666.

3-*p*-**Tolylhexahydropyridazine** and its salts (KATZENELLENBOGEN), A., i, 122.

p-**Tolylhydrazoacetaldoxime**, constitution of (VOSWINCKEL), A., i, 844.

6-Tolylhydroxylamine, 2:4-*di*nitro- (COHEN and DAKIN), T., 27 ; P., **1901**, 214.

o-**Tolylhydroxyoxamide** and its salts and acetyl derivative (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1571; P., **1902**, 197.

p-**Tolyl-***m*-**hydroxyphenazinesulphonic acid** and its salts (GNEHM and VEILLON), A., i, 288.

5-Tolyl-*ψ*-**indophenazine**, and 9-bromo- (v. KORCZYNSKI and MARCHLEWSKI), A., i, 648.

p-**Tolyl methyl ketone**, hydrazone and semicarbazone of (SORGE), A., i, 380.

(*Tolyl compounds Me*=1.)
p-**Tolyl-α-naphthylamine** and its acyl, bromo-, nitro-, and nitroso-derivatives, and **-sulphonic acid** and its salts (GNEHM and RÜBEL), A., i, 145.
m-**Tolylnitrosoamine**, 2:4:6-*tri*bromo- (HANTZSCH and POHL), A., i, 843.
p-**Tolylnitrosoamine**, *p*-*mono*- and 2:6-*di*-bromo- and *o*- and *p*-nitro- (HANTZSCH and POHL), A., i, 843.
o-**Tolyloxamic acid**, ethyl ester (PICKARD, ALLEN, BOWDLER, and CARTER), T., 1571.
Tolyloxaminosulphonic acids, *m*-amino-, and its calcium salt and diazo-compound (SCHOELLKOPF, HARTFORD & HANNA CO.), A., i, 119.
o-**Tolylphthalamic acid**, nitroso-derivative of (KUHARA and FUKUI), A., i, 35.
o-**Tolylphthalimides**, *s*- and α- (KUHARA and FUKUI), A., i, 35.
p-**Tolyl-2-picolylalkine** and its salts (DIERIG), A., i, 827.
p-**Tolyl propyl ketone**, and its semicarbazones (BLAISE), A., i, 164.
Tolylpurpurates, *o*- and *p*-, potassium salts (BORSCHE and LOCATELLI), A., i, 226.
3-*p*-Tolylpyridazine and its 6-chloro-, 6-iodo-, nitro-, amino-, 6-phenoxy, 6-methoxy, and 6-ethoxy derivatives, and their salts (KATZENELLENBOGEN), A., i, 121.
3-*p*-Tolyl-pyridazinone and **-pyridazone**, and 1-methyl and 1-ethyl derivatives of the pyridazone (KATZENELLENBOGEN), A., i, 121.
p-**Tolylpyrrolidine** and its picrate (KATZENELLENBOGEN), A., i, 122.
p **Tolylsemicarbazide** (BAMBERGER), A., i, 509.
4-*p*-Tolylsemithiocarbazide (BUSCH and ULMER), A., i, 575.
Tolylthioglycollic acids, *o*- and *p*- (RABAUT), A., i, 673.
Tolylthiohydantoic acids, *o*- and *p*- (WHEELER and JOHNSON), A., i, 760.
Tolyl-ψ-thiohydantoins, *o*- and *p*-, labile and stable, and their acetyl derivatives (WHEELER and JOHNSON), A., i, 759.
o-**Tolyltrimethylammonium** bromide, 4-nitro- (STADEN), A., i, 444.
m-**Tolyltrimethylammonium** bromide, 5-nitro- (HAIBACH), A., i, 444.
p-**Tolyltrimethylammonium** bromide, 2-nitro- (HAIBACH), A., i, 444.
Toning solutions. See Photochemistry.
Tourmaline mixtures, theory of (TSCHERMAK), A., ii, 91.
Toxicity of organo-metallic compounds, influence of the methyl groups on the (LAFFONT), A., ii, 620.
Toxins, action of sunlight on (EMMERLING), A., i, 195.
action of erepsin and intestinal juice on (SIEBER and SCHUMOFF-SIMONOWSKI), A., ii, 680.
nature and properties of mixtures of, with their antitoxins (DANYSZ), A., ii, 575.
and antitoxins, action of, *in vitro* and *in corpore* (BASHFORD), A., ii, 277.
Transparency of matter for X-rays, law of (BENOIST), A., ii, 191.
Transport numbers. See Electrochemistry.
Trees. See Agricultural Chemistry.
Triacetoneamine, compounds of, with the alkali metals (MERCK), A., i, 86.
Triacetyl-. See also under the Parent Substance.
Triacetylarabinose, bromo- and chloro- (CHAVANNE), A., i, 346.
Triacetyl*di*bromodextrose (FISCHER and ARMSTRONG), A., i, 263.
Triacetylgalactonic acid and its anilide (RUFF and FRANZ), A., i, 259.
Triacetylmethylglucoside bromohydrin (FISCHER and ARMSTRONG), A., i, 263.
ββγ-Trialkyl-δ-phenylbutanes, *tri*thio- (POSNER), A., i, 297.
ββγ-Trialkylsulphone-δ-phenylbutanes (POSNER), A., i, 297.
Tri-*p*-anisylacetonitrile (V. BAEYER and VILLIGER), A., i, 770.
Trianisylcarbinol and its salts (V. BAEYER and VILLIGER), A., i, 381.
Trianisylcarbinols (V. BAEYER and VILLIGER), A., i, 770.
Tri-*p*-anisylchloromethane (V. BAEYER and VILLIGER), A., i, 771.
Trianisylmethane (V. BAEYER and VILLIGER), A., i, 381.
Triazan derivatives (BAMBERGER), A., i, 246, 321, 577; (BAMBERGER and GROB), A., i, 247; (BAMBERGER and FREI), A., i, 248, 324; (VOSWINCKEL), A., i, 321.
o-**Triazobenzaldoxime** (BAMBERGER and DEMUTH), A., i, 95.
products from (BAMBERGER and DEMUTH), A., i, 650.
o-**Triazobenzamide** (BAMBERGER and DEMUTH), A., i, 651.
Triazole, formula of (PELLIZZARI), A., i, 321.
nitrate, preparation of (SILBERRAD), T., 602; P., **1902**, 44.
1:2:3-Triazole, synthesis of derivatives of (DIMROTH), A., i, 403.

1:2:4-Triazole (*pyrro-αβ′-diazole*) derivatives (WHEELER and BEARDSLEY), A., i, 502.

Triazolens, so-called, constitution of (HANTZSCH), A., i, 325.

Tribenzoyl-. See under the Parent Substance.

Tribenzylamine, and its *m*-**tricarboxylic acid**, and *tri-m*-cyano-derivative (EHRLICH), A., i, 25.

Tribenzyl*tri*aminotri-*p*-tolylarsine (MICHAELIS and KRAHE), A., i, 521.

ααγ-Tribenzylsulphone-αγ-diphenylpropane (POSNER), A., i, 297.

Tri-*tert.*butylphenylarsenic compounds (MICHAELIS and TRAEGEL), A., i, 524.

***sec.*-Tricapryl alcohol.** See *sec.*-Trioctyl alcohol.

Tricarballylic acid (*propane αβγ-tricarboxylic acid*), synthesis and dissociation constant of, and its cyano-derivative, esters, and anhydro-acid (BONE and SPRANKLING), T., 29; P., **1901**, 215.

conductivity of esters of (WEGSCHEIDER), A., i, 618.

Tricarbethoxymethyl bromide (WHEELER and JOHNSON), A., i, 761.

Tricosane (MABERY), A., i, 734.

Tri-*p*-cumylarsenic compounds (MICHAELIS and OBERG), A., i, 523.

Tri-ψ-cumylarsenic compounds (MICHAELIS and v. KARCHOWSKI), A., i, 523.

Tridecane and chloro- (MABERY), A., i, 733.

1:2:3-Triethoxybenzene. See Pyrogallol triethyl ether.

p-**Triethylarsenibenzobetaine** and its salts (MICHAELIS and EPPENSTEIN), A., i, 414.

Triethylbenzene, *s*- and *as*-, separation of (KLAGES), A., i, 432.

Triethylbenzenesulphonic acids, *s*- and *as*-, and their salts, chlorides, amides, and anilides (KLAGES), A., i, 433.

s-**Triethyliodobenzene** (KLAGES), A., i, 433.

Triethyl-β-naphthylammonium iodide (REYCHLER), A., i, 757.

Tri-*p*-ethylphenylarsenic compounds (MICHAELIS and SCHNEEMANN), A., i, 523.

Triethylxanthine (BOEHRINGER & SÖHNE), A., i, 505.

1:2:3-Trihydroxybenzylideneaniline (DIMROTH and ZOEPPRITZ), A., i, 294.

Trihydroxybutyric acid. See *d*-Erythronic acid.

αβγ-Trihydroxy-αδ-diphenylvaleric acid and its salts (THIELE and STRAUS), A., i, 158.

3:3′:4′-Trihydroxyflavone and its triacetate (v. KOSTANECKI and RÓŻYCKI), A., i, 105.

3:3′:5′-Trihydroxyflavone and its triacetate (v. KOSTANECKI and WEINSTOCK), A., i, 817.

1:8:9-Trihydroxyhexahydrocymene (STEPHAN and HELLE), A., i, 631.

Trihydroxymethylanthraquinone (m. p. 224·5°—225·5°). See *iso*Hydroxymethylchrysasin.

4:5:5-Trihydroxy-4-methyldihydrouracil (BEHREND and GRÜNEWALD), A., i, 834.

2:3:8-Trihydroxynaphthalene and its triacetate, trimethyl ether, and **-6-sulphonic acid** (FRIEDLÄNDER and SILBERSTERN), A., i, 794.

1:8:9-Trihydroxyterpane (WALLACH and RAHN), A., i, 804.

Trihydroxyterpineol (WALLACH and RAHN), A., i, 723.

2:2′:2″-Trihydroxy-1:1′:1″-trinaphthylmethane, *eso*anhydride of, disruption of, by bromine (FOSSE), A., i, 449.

βγδ-Triketopentane, preparation of, and its diphenylhydrazone, and disemicarbazone (SACHS and RÖHMER), A., i, 837.

βγδ-Triketo-δ-phenylbutane and its hydrate, β-phenylhydrazone and β-semicarbazone (SACHS and RÖHMER), A., i, 837.

Trimesitylarsenic compounds (MICHAELIS and OBERG), A., i, 524.

3′:4′:5′-Trimethoxy-2:4-diethoxybenzoylacetophenone (v. KOSTANECKI and PLATTNER), A., i, 690.

2:4:6-Trimethoxydiphenyltriketone phenylhydrazone (v. KOSTANECKI and TAMBOR), A., i, 471.

2:4:6-Trimethoxy-2′-ethoxybenzoylacetophenone phenylhydrazone (v. KOSTANECKI and TAMBOR), A., i, 471.

3:3′:5′-Trimethoxyflavone (v. KOSTANECKI and WEINSTOCK), A., i, 817.

3:7:10-Trimethylacridinium salts, 2:8-*di*amino-, and its diacetyl derivative (ULLMANN and MARIÓ), A., i, 182.

5-(or 3-)Trimethylaminophenylpyrazole dimethiodide (BUCHNER and HACHUMIAN), A., i, 237.

p-**Trimethylarsenibenzobetaine** and its salts (MICHAELIS and EPPENSTEIN), A., i, 414.

1:4:6-Trimethylbenziminoazole and its salts (FISCHER, RIGAUD, and KOPP), A., i, 189.

Trimethylbenziminoazoles, 1:2:5- and 1:2:6-, and their salts (FISCHER and RIGAUD), A., i, 399.

2:4:5-Trimethylbenzylideneazine, reduction of, and preparation of some derivatives of the reduction products (HARDING), A., i, 127.

2:4:5-Trimethylbenzylidenebenzylidenehydrazine (CURTIUS and FRANZEN), A., i, 832.

2:4:5-Trimethylbenzylidenehydrazine and its picrate (CURTIUS and FRANZEN), A., i, 831.

Trimethylbrazilin, constitution of (v. KOSTANECKI and LAMPE), A., i, 481.
oxidation of, with chromic acid (PERKIN), T., 1016; P., **1902**, 147; (GILBODY and PERKIN), T., 1040; P., **1899**, 27; **1900**, 105.

Trimethylbrazilone (PERKIN), T., 1017; P., **1902**, 147; (GILBODY and PERKIN), T., 1040; P., **1899**, 27; **1900**, 105; (v. KOSTANECKI and LAMPE), A., i, 481.

β-Trimethylbrazilone (v. KOSTANECKI and LAMPE), A., i, 481; (HERZIG and POLLAK), A., i, 483.

γ-Trimethylbutyrobetaine and its salts (WILLSTÄTTER), A., i, 268.

Trimethylcatechone (v. KOSTANECKI and TAMBOR), A., i, 553.
formula of, and its nitro-derivative (KARNOWSKI and TAMBOR), A., i, 637.

Trimethyldehydrobrazilin, and its acetyl derivative (HERZIG and POLLAK), A., i, 483.

Trimethyldehydrobrazilone and its acetyl derivative (v. KOSTANECKI and LAMPE), A., i, 481.

3:5:5-Trimethyl-$\Delta^{2:6}$-dihydrocatechol and its dioxime (WOLFF, GABLER, and HEYL), A., i, 676.

Trimethyl*dicyclo*dodecatriene (DOEBNER), A., i, 599.

***cyclo*Trimethylene** (cyclo*propane*), 1:2:3-*tric*yano-, and its **-tricarboxylic acid** (ERRERA and PERCIABOSCO), A., i, 116.

Trimethylenecarbinol and its derivatives (DALLE), A., i, 525.

***cyclo*Trimethylenecarboxylic acid** and its isobutyl ester, chloride, and amide (DALLE), A., i, 526.

Trimethylenedisulphonanilides (AUTENRIETH and RUDOLPH), A., i, 22.

Trimethylenemethane, amino-, and its hydrochloride and platinichloride (DALLE), A., i, 525.

***cyclo*Trimethylenetetracarboxylic acid**, and its *di*cyano-derivative, ethyl ester (ERRERA and PERCIABOSCO), A., i, 116.

Trimethylenetriethyltriamine and its hydriodides and methiodide (EINHORN and PRETTNER), A., i, 840.

Trimethylenexylylenedipiperidylium bromides and salts of the *o*- and *p*-compounds (SCHOLTZ), A., i, 836.

Trimethylethylene. See Amylene (*β-methyl-β-butylene*).

2:2:4-Trimethylhexahydrobenzylaniline (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 90.

2:4:4-Trimethyl*cyclo*hexanol (WALLACH and SCHEUNERT), A., i, 724, 805.

2:4:4-Trimethyl*cyclo*hexanone and its oximes and semicarbazone (WALLACH and SCHEUNERT), A., i, 724, 805; (WALLACH and FRANKE), A., i, 806.

3:5:5-Trimethyl*cyclo*hexanone (WALLACH and FRANKE), A., i, 806.

2:4:4-Trimethyl*cyclo*-Δ^2-hexenone and its oxime, semicarbazone and benzylidene derivative (WALLACH and SCHEUNERT), A., i, 724, 805.

Trimethylhydrindonium hydroxide, resolution of, into its optically active components (KIPPING), T., 275; P., **1902**, 33.

1:2:5-Trimethylindole (FARBENFABRIKEN VORM. F. BAYER & CO.), A., i, 493.

Trimethylitamalic acid, diethyl ester and silver and sodium salts (NOYES and PATTERSON), A., i, 742.

Trimethylmalic acid, β-lactone of (KOMPPA), A., i, 204.

Trimethyl-β-naphthylammonium iodide (REYCHLER), A., i, 757.

2:3:4-Trimethylnicotinic acid (WOLFF, GABLER, and HEYL), A., i, 677.

4-Trimethylolmethylpyridine-3-carboxylic acid, lactone of, and its salts and acetyl derivative (KOENIGS), A., i, 180.

2-Trimethylolmethylquinoline-3-carboxylic acid, lactone of, and its salts (KOENIGS and STOCKHAUSEN), A., i, 179.

Trimethylparaconic acid, and its ethyl ester, synthesis of (NOYES and PATTERSON), A., i, 741.

Trimethylpentane-βε-olidoic acids, **βγγ-** and **γγδ-** (BALBIANO), A., i, 741.

Trimethylpentanolic acid (MICHEL and SPITZAUER), A., i, 257.

4:5:5-Trimethyl*cyclo*pentanone, and its oxime, semicarbazone, and benzylidene derivative (BLAISE and BLANC), A., i, 300.

2:2:3-Trimethyl*cyclo*pentanoneoxime (NOYES and PATTERSON), A., i, 590.

Trimethylpiperidine (b. p. 166°) and its derivatives (WALLACH and GILBERT), A., i, 80.

β-Trimethylpropiobetaine and its salts (WILLSTÄTTER), A., i, 268.
3:4:5-Trimethylpyrazole and its 1-carboxylamide (POSNER), A., i, 83.
3:5:5-Trimethylpyrazoline from dimethylketazine (FREY and HOFMANN), A., i, 60.
2:4:6-Trimethylpyridine from Scottish shale oil (GARRETT and SMYTHE), T., 451; P., **1900**, 190; **1902**, 47.
1:2:5-Trimethylpyrrolidine and its salts (KNORR and RABE), A., i, 54.
Trimethylpyrrolines, 1:2:4- and 1:2:5-, and their salts (KNORR and RABE), A., i, 54.
2:3:4-Trimethylquinolide and its additive salts, methiodide, and pseudo-ammonium base (WOLFF, GABLER, and HEYL), A., i, 676.
3:3:4-Trimethyl-2-quinoline (CAMPS), A., i, 178.
2:3:4-Trimethylquinolinic acid and its salts (WOLFF, GABLER, and HEYL), A., i, 677.
Trimethylsuccinic acid (*pentanedicarboxylic acid*), bromination of (BONE and SPRANKLING), T., 50; P., **1901**, 243.
Trimethylsuccinic acid (*pentanedicarboxylic acid*), bromo-, ethyl ester, action of, on ethyl sodiocyanoacetate (BONE and SPRANKLING), T., 52; P., **1901**, 243.
Trimethylsuccinic anhydride, bromo- (BONE and SPRANKLING), T., 51; P., **1901**, 243.
2:2:4-Trimethyl-tetra- and **-hexa-hydrobenzaldehyde** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 102.
1:3:4-Trimethyluracil, constitution of (BEHREND and THURM), A., i, 832.
1:3:8-Trimethylxanthine (BOEHRINGER & SÖHNE), A., i, 125.
3:7:8-Trimethylxanthine (BOEHRINGER & SÖHNE), A., i, 504.
Tri-α- and **-β-naphthylarsenic** compounds (MICHAELIS and BÜSCHLER), A., i, 524.
Tri-β-naphthylguanazole (BUSCH and ULMER), A., i, 575.
sec.-**Trioctyl alcohol** (MARKOWNIKOFF and ZUBOFF), A., i, 6.
Trioxymethylene, action of acid chlorides and anhydrides of the fatty series on (DESCUDÉ), A., i, 149, 339, 738.
condensation of, with α-brominated fatty esters (BLAISE), A., i, 357.
action of, on glucosides and sugars (DE BRUYN and ALBERDA VAN EKENSTEIN), A., i, 745.
action of magnesium organic compounds on (GRIGNARD and TISSIER), A., i, 198.
2:6:8-Trioxy-1:3:7-trimethyl-9-ethylpurine (WISLICENUS and KÖRBER), A., i, 533.
Tripalmitin (HANSEN), A., i, 340.
Tri-3-phenanthryl phosphate (WERNER), A., i, 438.
Triphenoxazine-5-phenylazine (DIEPOLDER), A., i, 830.
Triphenyl-*p*-anisylmethane (v. BAEYER and VILLIGER), A., i, 769.
Triphenylarsenic compounds (MICHAELIS, LUDWIG, and WEISS), A., i, 517.
Triphenylcarbinol, properties and reactions of (v. BAEYER and VILLIGER), A., i, 769.
compound of, with pyridine (TSCHITSCHIBABIN), A., i, 396.
methoxyl derivatives, basicity of (v. BAEYER and VILLIGER), A., i, 770.
Triphenyldehydroguanazole (BUSCH and ULMER), A., i, 574.
2:4:6-Triphenyl-3:4-dihydropyrimidine (KUNCKELL and SARFERT), A., i, 835.
Triphenyldimethylguanazole (BUSCH and ULMER), A., i, 574.
Triphenylglyoxaline. See Lophine.
Triphenylguanazole and its hydrochloride, diacetyl, dimethyl and diethyl derivatives (BUSCH and ULMER), A., i, 574.
Triphenylmethane and its **-sulphonic acid** and sodium salt (v. BAEYER and VILLIGER), A., i, 769.
preparation of (NORRIS and MACLEOD), A., i, 363.
halochromy of (v. BAEYER and VILLIGER), A., i, 380.
action of sulphuric acid on (v. BAEYER and VILLIGER; ULLMANN), A., i, 534.
Triphenylmethane, bromo- and chloro-, action of, on pyridine (TSCHITSCHIBABIN), A., i, 395.
ω-bromo- and ω-iodo-, and their reactions, and pentaiodides (GOMBERG), A., i, 754.
ω-chloro-, constitution of (KEHRMANN and WENTZEL), A., i, 89.
Triphenylmethyl (KEHRMANN), A., i, 209; (GOMBERG), A., i, 600.
and its halogen derivatives and additive compounds (GOMBERG), A., i, 534.
constitution of (KEHRMANN and WENTZEL), A., i, 89; (GOMBERG), A., i, 754.
Triphenylmethyl-amine, **-ethylamine**, **-propylamine**, and **-amylamine** (GOMBERG), A., i, 535.
2:3:4-Triphenyl-1:3-α-naphtha*iso*oxazine (BETTI), A., i, 57.
Triphenylphenacylarsenic compounds (MICHAELIS and WEISS), A., i, 518.

Triphényl-ψ-thiohydantoin (WHEELER and JOHNSON), A., i, 761.
Triplite from Moravia, and its decomposition products (KOVÁŘ and SLAVÍK), A., ii, 29.
Tripropylcarbinol. See Decyl alcohol.
Tristearin (HANSEN), A., i, 339.
Trisulphimide and its tribenzoyl and *N*-methyl derivatives (HANTZSCH and HOLL), A., ii, 15.
Triticonucleic acid and its salts from embryos of wheat (OSBORNE and HARRIS), A., i, 847.
Tri-*m*-tolylarsenic compounds (MICHAELIS and EISENLOHR), A., i, 521.
Tri-*p*-tolylarsenic compounds (MICHAELIS, LAUTERWALD, and KRAHE), A., i, 520.
Tri-*p*-tolyldehydroguanazole (BUSCH and ULMER), A., i, 574.
Tri-*p*-tolylguanazole and its hydrochloride and diacetyl derivative (BUSCH and ULMER), A., i, 574.
Tri-*p*-tolyl*iso*melamine and its triacetyl derivative (HELLER and BAUER), A., i, 445.
Tritolylmethyl chloride, additive compounds of, with metallic chlorides (GOMBERG), A., i, 535.
Tri-*p*-tolylphenacylarsenic compounds (MICHAELIS and KRAHE), A., i, 521.
Tri-*m*-xylylarsenic compounds (MICHAELIS and HEINE), A., i, 522.
Tri-*p*-xylylarsenic compounds (MICHAELIS and SCHAEUBLE), A., i, 522.
Tropic acids (GADAMER), A., i, 174.
Tropilidene, reactions of (THIELE), A., i, 145.
Tropine, formation of, from tropidine (LADENBURG), A., i, 390, 639; (WILLSTÄTTER), A., i, 559.
the optical function of the asymmetric carbon atoms in (GADAMER), A., i, 174.
platinichloride, action of oscine platinichloride on (HESSE), A., i, 817.
Tropinone, compounds of, with the alkali metals (MERCK), A., i, 86.
α-Truxillic acid, formation of, from cinnamic acid (RIIBER), A., i, 785.
synthesis of (RIIBER), A., i, 617.
α-Truxillic acid, *di*bromo-, and its ethyl ester (KRAUSS), A., i, 785.
Trypsin (SALKOWSKI), A., ii, 616; (COHNHEIM), A., ii, 673.
yeast (KUTSCHER), A., i, 580; (SALKOWSKI), A., ii, 165.
action of, on gelatin (REICH-HERZBERGE), A., i, 252.
pathogenic properties of (ACHALME), A., ii, 96.
Tumours, malignant, autolysis in (PETRY), A., ii, 342.
Tungsten alloys (STAVENHAGEN and SCHUCHARD), A., ii, 265.
Tungsten boride (TUCKER and MOODY), T., 16; P., **1901**, 129.
chlorides, compounds of, with hydroxy-acids (ROSENHEIM and LOEWENSTAMM), A., i, 360.
oxides, hydrated (ALLEN and GOTTSCHALK), A., ii, 458.
Tungstic acids, ammonium salts (TAYLOR), A., ii, 661.
Pertungstic acid (PISSARJEWSKY), A., ii, 663.
Silico-vanado-tungstic acid, salts (FRIEDHEIM and HENDERSON), A., ii, 662.
Tungsten steel, estimation of tungsten in (FIEBER), A., ii, 176.
Turkey red oil, analysis of (HERBIG), A., ii, 366.
Turpentine, oil of, detection of "white spirit" in (A. and P. ANDOUARD), A., ii, 290.
Tyrosinase (GESSARD), A., i, 196.
in animals (v. FÜRTH and SCHNEIDER), A., ii, 36.
formation of, by Bacteria (LEHMANN), A., i, 580.
Tyrosine as nutrient for plants (SCHULZE), A., ii, 165, 280.
detection of (BOURQUELOT), A., ii, 483.

U.

Undecane-βγ-diol (MANNICH), A., i, 592.
βγ-Undecinene (MANNICH), A., i, 592.
Undecoic acid (*βγ-dimethyl-α-isobutylvaleric acid*, *α-isobutyl-β-isopropylbutyric acid*), and its amide and chloride (NEF), A., i, 7.
Undecoic acid (*δ-methyl-α-isobutylhexoic acid*, *α-isobutyl-β-isoamylacetic acid*), and its amide and chloride (NEF), A., i, 7.
Undecyl alcohol (*methyl-n-nonylcarbinol*) (POWER and LEES), T., 1593; P., **1902**, 193.
and its acyl derivatives (MANNICH), A., i, 592.
Undecyl ether (MANNICH), A., i, 592.
β-Undecylamine (MANNICH), A., i, 592.
β-Undecylene and its dibromide (MANNICH), A., i, 592.
Unsaturated compounds, theory of (HINRICHSEN), A., ii, 129.
constitution of (THIELE), A., i, 151.
Uracil, synthesis of (FISCHER and ROEDER), A., i, 124, 188.

Uracil, 4:5-*di*amino-, and its acetyl derivatives (BOEHRINGER & SÖHNE), A., i, 504.
Uraninite from Joachimsthal (JANDA), A., ii, 612,
assay of (KERN), A., ii, 51.
Uranium, atomic weight of (RICHARDS and MERIGOLD), A., ii, 506.
radioactivity of (SODDY), T., 860; P., **1902**, 121; (BECQUEREL), A., ii, 117.
Uranium alloys (STAVENHAGEN and SCHUCHARD), A., ii, 265.
Uranium oxides, formation of (OECHSNER DE CONINCK), A., ii, 459.
Hyperuranic acid (PISSARJEWSKY), A., ii, 663.
Uranium compounds (ORLOFF), A., ii, 506.
Uranium salts, colour reaction of, with hydrogen peroxide (ALOY), A., ii, 609.
Uranium sulphate, octahydrated (ORLOFF), A., ii, 506.
sulphates, solubility of (OECHSNER DE CONINCK), A., ii, 458.
Uranous chlorophosphate (ALOY), A., ii, 145.
sulphate (OECHSNER DE CONINCK), A., ii, 84.
sulphates (KOHLSCHÜTTER), A., i, 12.
Uranyl iodide (ALOY), A., ii, 145.
tellurate (GUTBIER), A., ii, 558.
thiosulphate (FAKTOR), A., ii, 25.
Uranium organic compounds:—
Uranyl potassium cyanide (ALOY), A., ii, 145.
Urano-malic and **-tartaric acids,** and their salts (ITZIG), A., i, 76.
Uranium, estimation of (KERN), A., ii, 51.
Uranium mineral resembling voglite (ANTIPOFF), A., ii, 510.
Uranophane from Georgia (WATSON), A., ii, 568.
p-**Urazine,** and its acetyl derivatives, and its reaction with aldehydes and ketones (PURGOTTI and VIGANÒ), A., i, 322.
p-**Urazine,** *di*thio- (p-*diketothiohexahydrotetrazine*) (PURGOTTI and VIGANÒ), A., i, 322.
Urazole series, molecular transformation in the (BUSCH), A., i, 322.
Urazoles, constitution of the (BUSCH), A., i, 321, 501.
Urea and indoxyl, correlated production of, in the organism (GNEZDA), A., ii, 339.
test for (FENTON), P., **1902**, 244.
estimation of, in urine (SALLERIN), A., ii, 541.
Urea. See also Carbamide.
Ureides, cyclic, electrolytic reduction of (TAFEL and REINDL), A., i, 15.
Ureometer, new (FREDERICQ), A., ii, 186.
Ureter, effect of compression of the, on the urine (PFAUNDLER), A., ii, 617.
Urethane, action of, on pyruvic acid (SIMON), A., i, 14.
action of sulphuryl chloride on (EPHRAIM), A., i, 269.
Urethane, nitroso-, constitution of the so-called (BRÜHL), A., i, 353.
Uric acid, production of, from free purine bases (KRÜGER and SCHMID), A., ii, 415.
synthesis of, in the organism (WIENER), A., ii, 338.
oxidation of, by permanganate (JOLLES), A., i, 86; (FALTA), A., i, 252; (TOCHER), A., ii, 706.
oxidation product of (SCHOLTZ), A., i, 140.
fate of, administered as such, in the organism (SOETBEER and IBRAHIM), A., ii, 337; (SALKOWSKI), A., ii, 616.
excretion of (ULRICI), A., ii, 36.
direct titration of, in urine (RUHEMANN), A., ii, 435.
estimation of, in urine (JOLLES), A., ii, 112; (MÁTRAI; RUDISCH and BOROSCHEK), A., ii, 541; (JOLLES; WOGRINZ; TOCHER), A., ii, 706.
Jolles' process for the estimation of, in urine (MAKOWKA), A., ii, 182; (RICHTER), A., ii, 632.
*iso***Uric acid,** conversion of, into uric acid and thioxanthine (FISCHER and TÜLLNER), A., i, 664.
ψ-**Uric acid,** γ-thio-, and its salts (FISCHER and TÜLLNER), A., i, 664.
Urinary albumose, crystalline (GRUTTERINK and DE GRAAF), A., ii, 276.
duct of wild boar, and from the kidney of a deer, concretions from the (COUNCLER), A., ii, 96.
Urine, composition of, in a case of osteomalacia (THOMAS), A., ii, 96.
action of *Bacillus coli communis* on (NOËL-PATON), A., ii, 679.
action of curare on the excretion of carbon dioxide and nitrogen in (FRANK and v. GEBHARD), A., ii, 417.
action of *p*-dimethylaminobenzaldehyde on (CLEMENS), A., ii, 296.
effect of compression of the ureter on the (PFAUNDLER), A., ii, 617.

Urine in acid and alkaline solution, oxidation numbers of (NIEMILOWICZ and GITTELMACHER-WILENKO), A., ii, 679.
human, excretion of ammonia in (CAMERER), A., ii, 416.
elimination of calcium hypophosphite in (MASSOL and GAMEL), A., ii, 37; (PANZER), A., ii, 225.
excretion of glycuronic acid in (MAYER), A., ii, 616.
excretion of sodium chloride in, after extirpation of the pancreas (LÉPINE and MALTET), A., ii, 616.
influence of phloridzin on the elimination of sodium chloride in (LÉPINE and MALTET), A., ii, 617.
excretion of uric acid in (ULRICI), A., ii, 36.
of geese, effect of acids and alkalis on (KOWALEWSKI and SALASKIN), A., ii, 619.
infants', relation of carbon and nitrogen in (v. OORDT), A., ii, 416.
antipyrylcarbamide in, after the administration of pyramidone (JAFFÉ), A., i, 840.
boric acid in, after administration of the drug (SONNTAG), A., ii, 678.
cacodylic acid in, and its detection (VITALI), A., ii, 161.
colouring matters of (RÖSSLER), A., i, 49.
indoxylic origin of red colouring matters of (MAILLARD), A., i, 372.
new diastases in (POZZI-ESCOT), A., i, 655.
glycocyamine, glycocyamidine, and ptomaines in, in infectious diseases (NICOLA), A., ii, 679.
indoxyl in (BLUMENTHAL), A., ii, 620.
oxalic acid and its estimation in (AUTENRIETH and BARTH), A., ii, 575.
*allo*xyproteic acid from (BONDZYŃSKI and PANEK), A., i, 847.
peptone in the (ITO), A., ii, 160.

Urine, analytical processes relating to:—
osmotic analysis of (STEYRER), A., ii, 632.
detection of acetoacetic acid in (ALLARD), A., ii, 363.
new test for albumin in (POLLACCI), A., ii, 369.
detection of albumins in (PORTES and DESMOULIÈRE), A., ii, 236.
test for aldehydes and dextrose in (RIEGLER), A., ii, 585.
detection of blood colouring matters in (ROSSEL), A., ii, 296.

Urine, analytical processes relating to:—
detection of cacodylic acid in (VITALI), A., ii, 161.
clinical detection and estimation of dextrose in (RUINI), A., ii, 233.
the copper and picric acid test for dextrose in (LYONS), A., ii, 179.
nickel salts as a test for dextrose in (DUYK), A., ii, 54.
osazone test for the detection of dextrose in (ESCHBAUM), A., ii, 585.
the phenylhydrazine test for dextrose in (LYONS), A., ii, 703.
detection of indican in (STRZYŻOWSKI), A., ii, 186.
detection of mercury in (LAQUEUR), A., ii, 359.
detection of morphine and strychnine in (AUTENRIETH), A., ii, 368.
detection of pentose in (BIAL; KRAFT), A., ii, 703.
detection of peptone in (ČERNY), A., ii, 116.
test for santonin in (CROUZEL), A., ii, 544.
direct titration of uric acid in (RUHEMANN), A., ii, 435.
estimation of acidity in (ARNSTEIN), A., ii, 159.
estimation of the acidity of, by calcium sucrate (DE GIRARD and VIRES), A., ii, 707.
estimation of arabinose in (NEUBERG and WOHLGEMUTH), A., i, 347.
normal, estimation of carbohydrates in, by the Schotten-Baumann method of benzoylation (REINBOLD), A., ii, 633.
estimation of dextrose in (REALE), A., ii, 234.
estimation of dextrose in, by fermentation (LYONS), A., ii, 704.
estimation of iron in (NEUMANN), A., ii, 583.
estimation of mercury in (BARDACH), A., ii, 532.
estimation of mercury in, colorimetrically (ESCHBAUM), A., ii, 476.
estimation of nitrates in, gasometrically (GERLINGER), A., ii, 173.
estimation of nitrogen in (NEUBERG; CAMERER), A., ii, 426.
estimation of oxalic acid in (AUTENRIETH and BARTH), A., ii, 575.
estimation of proteids in (HERLANT), A., ii, 295.
estimation of sodium and potassium in (GARRATT), A., ii, 226.
estimation of sulphates in (FOLIN), A., ii, 352.

Urine, analytical processes relating to:—
estimation of urea in (SALLERIN), A., ii, 541.
estimation of uric acid in (JOLLES), A., ii, 112; (MÁTRAI; RUDISCH and BOROSCHEK), A., ii, 541; (JOLLES; WOGRINZ; TOCHER), A., ii, 706.
Jolles' process for the estimation of uric acid in (MAKOWKA), A., ii, 182; (RICHTER), A., ii, 632.
estimation of xanthine derivatives in (NIEMILOWICZ), A., ii, 542.
error in the estimation of xanthouric compounds in, caused by foods and medicaments (ANDRÉ), A., ii, 542.
separation of ternary compounds, nitrogenous compounds and alkaloids in (DOMBROWSKI), A., ii, 633.
See also Alcaptonuria, Diabetes, Diuresis, Excretion, Indoxyluria, and Pentosuria.
Urobilin in ascitic fluid (STICH), A., ii, 418.
spectrum of (BIER and MARCHLEWSKI), A., i, 636.
Usnaric acid from Lichens (ZOPF), A., i, 789.
Usnic acid (SALKOWSKI), A., i, 228.
Usnic acids from Lichens (HESSE), A., i, 680; (ZOPF), A., i, 789.
Usnidic acid, formula of, and its salts, and **Usnidole** (HESSE), A., i, 680.

V.

Vacuum, chemical method for obtaining a (BENEDICT and MANNING), A., ii, 449.
Valencies, partial, theory of (THIELE), A., i, 151; (GRAEBE), A., i, 209; (ERLENMEYER), A., ii, 389.
Valency, theories of (WERNER), A., ii, 554.
influence of, in the antitoxic action of ions (LOEB), A., ii, 162, 219.
*iso***Valeraldehyde**, formation of, from gelatin (NEUBERG and BLUMENTHAL), A., ii, 516.
*iso***Valeramide**, α-amino-, hydrobromide (SCHIFF), A., i, 250.
Valeric acid, chloromethyl and methylene ester (DESCUDÉ), A., i, 339.
Valeric acid, *αβγδ-tetra*bromo- (DOEBNER), A., i, 340.
δ-bromo-, δ-chloro- and δ-iodo- (CLOVER), A., i, 201.
*iso***Valeric acid**, and α-bromo-, dialkylamides of (LIEBRECHT), A., i, 714.
*iso***Valeric acid**, *iso*bornyl and *iso*fenchyl esters (KONDAKOFF), A., i, 478.
Valeric acids, amino-, and their esters, salts, phenylcarbamides, and benzoyl derivatives (SLIMMER), A., i, 206.
δ-**Valerolactone** (CLOVER), A., i, 201.
*iso***Valerylacetic acid**, methyl ester and copper salt, and *iso***Valerylacetone** (BONGERT), A., i, 73.
*iso***Valerylacetoacetic acid**, isomeric esters and copper salt (BONGERT), A., i, 73.
*iso***Valerylazoimide** (HILLE), A., i, 142.
*iso***Valerylhydrazide** and its benzylidene and propylidene derivatives (HILLE), A., i, 141.
*iso***Valeryl-***p***-toluidide** and *m*-bromo- (MAFFEZZOLI), A., i, 756.
Vanadium, atomic weight and specific heat of (MATIGNON and MONNET), A., ii, 326.
Vanadium fluorine compounds (MELIKOFF and KASANEZKY), A., ii, 27.
Pervanadic acid (PISSARJEWSKY), A., ii, 663.
Vanadates and **Pervanadates**, action of hydrogen peroxide on (PISSARJEWSKY), A., ii, 326.
Vanado-silico-tungstic acid, salts (FRIEDHEIM and HENDERSON), A., ii, 662.
Vanadium silicide (MOISSAN and HOLT), A., ii, 610.
quadrivalent, sulphites and sulphates of (KOPPEL and BEHRENDT), A., ii, 85.
Vanadous salts, reactions of (PICCINI and MARINO), A., ii, 664.
sulphate and double sulphates (PICCINI and MARINO), A., ii, 663.
Vanadium, detection, estimation and separation of:—
detection of, and its separation from molybdenum (TRUCHOT), A., ii, 477.
estimation of (SMITH), A., ii, 231; (WILLIAMS), A., ii, 431; (CORMIMBŒUF), A., ii, 584.
estimation of, electrolytically (TRUCHOT), A., ii, 477.
Vanilla, formation of the perfume of (LECOMTE), A., ii, 40.
Vanillil-α-osazone (BILTZ and AMME), A., i, 469.
Vanillin, action of benzaldehyde on (ROGOFF), A., i, 103.
action of *m*- and *p*-nitrobenzaldehyde on (ROGOFF), A., i, 547.
compound of, with phosphoric acid (RAIKOW and SCHTARBANOW), A., i, 228.
Vanillinphenylhydrazone, oxidation of (BILTZ and AMME), A., i, 469.
Vanillylidene-*p***-aminoazobenzene** (WIELEŻYŃSKI), A., i, 510.

Vanthoffite from Wilhelmshall, Magdeburg-Halberstadt (KUBIERSCHKY), A., ii, 406.
artificial production of (VAN'T HOFF), A., ii, 407.
Vapour composition, studies in (CARVETH), A., ii, 600, 644.
and boiling point curves (EBERSOLE), A., ii, 196.
Vapour density, relation of, to latent heat of evaporation (KURBATOFF), A., ii, 379.
of phosphorophosphoric and phosphoric oxides (WEST), T., 927; P., **1902**, 138.
of sulphur, determination of, by Dumas' method (BILTZ and PREUNER), A., ii, 132.
See also Density.
Vapour phase. See Equilibrium.
Vapour pressures and boiling points of mixed liquids (YOUNG), T., 768; P., **1902**, 107.
of mixed liquids (YOUNG and FORTEY), P., **1902**, 216; (YOUNG), P., **1902**, 218.
maximum or minimum, of mixtures (KUENEN and ROBSON), A., ii, 599.
of ternary mixtures (SCHREINEMAKERS), A., ii, 61.
in the system, water-acetone-phenol (SCHREINEMAKERS), A., ii, 243, 380, 599.
of aqueous ammonia solution, influence of salts and other substances on the (PERMAN), T., 480; P., **1901**, 261.
of carbon monoxide (BALY and DONNAN), T., 919.
of hydrogen selenide (DE FORCRAND and FONZES-DIACON), A., ii, 253.
decrease of, of solutions of sodium chloride, sulphuric acid, and potassium nitrate (SMITS), A., ii, 123.
of isopropyl isobutyrate (YOUNG and FORTEY), T., 783; P., **1902**, 108.
Vapours, compressibility of, accurate method of measuring the (STEELE), T., 1076; P., **1902**, 165.
of organic liquids, condensation of, in dust-free air (DONNAN), A., ii, 302.
Variolaric acid (ZOPF), A., i, 465.
Vase, antique, from Abou-Roach, composition of (BERTHELOT), A., ii, 397.
Vegetable extracts, analysis of (MICKO), A., ii, 369.
Vegetables. See Agricultural Chemistry.
Velocity of reaction. See Affinity.
Venin, hæmolytic action of (CALMETTE), A., ii, 519.
Venins, proteolytic action of (LAUNOY), A., ii, 673.
Venins. See also Poisons.
Venom, snake. See Poison.
Veratric acid, *di*chloro-, affinity of (COPPADORO), A., i, 784.
Veratrine (*cevadine*), decomposition of (HORST), A., i, 549.
Veratrole, *tri*bromonitro- and *tri*chloronitro- (COUSIN), A., i, 288.
Verbascum-saponin and **-sapogenin** (ROSENTHALER), A., ii, 282.
Vesuvianite (?) from New Jersey (CHESTER), A., ii, 611.
Vesuvius, saline sublimation products of (CASORIA), A., ii, 407.
Vines. See Agricultural Chemistry.
Vintage musts and liqueur wines, special characters and analysis of (CARIMANTRAND), A., ii, 712.
Vinylacetic acid and its salts (FICHTER and SONNEBORN), A., i, 256.
β-Vinylacrylic acid and its salts (DOEBNER), A., i, 340.
action of barium hydroxide on (DOEBNER), A., i, 598.
reduction of (DOEBNER), A., i, 340; (THIELE and JEHL), A., i, 584.
Vinylamine, Gabriel's, constitution of (MARCKWALD and FROBENIUS), A., i, 24.
Vinyldiacetoneamine, compounds of, with the alkali metals (MERCK), A., i, 86.
***p*-Vinylphenol**, bromo-derivatives of, and their acetates (ZINCKE, SIEBERT, and REINBACH), A., i, 606.
3:5-*di*- and β-3:5-*tri*-bromo-, and their acetates (ZINCKE and LEISSE), A., i, 615.
Vinylsulphonanilides (AUTENRIETH and RUDOLPH), A., i, 22.
Violaquercitrin, identity of, with osyritrin and myrticolorin (PERKIN), T., 477; P., **1901**, 88; **1902**, 58.
Viper berus, elaboration of zymogen in the gastric glands of the (LAUNOY), A., ii, 613.
Viscosity (*internal friction*), laws of (NATANSON), A., ii, 5.
of helium and its alteration with temperature (SCHULTZE), A., ii, 5.
of sulphur (MALUS), A., ii, 131.
of the blood (BURTON-OPITZ), A., ii, 410.
Volcanic dust which fell on Barbados after the St. Vincent eruption (FLETT), A., ii, 513.
Volume, atomic, significance of changes of (RICHARDS), A., ii, 305, 444.
specific, of oxygen and nitrogen vapour at the boiling point of oxygen (DEWAR), A., ii, 304.

Volume, specific, of isopropyl isobutyrate (YOUNG and FORTEY), T., 783; P., **1902**, 108.
Voltameter. See Electrochemistry.

W.

Walnut oil, Bulgarian (PETKOW), A., ii, 115.
Washing apparatus for gases (TIST-SCHENKO), A., ii, 312.
WATER:—
spectrum of the dissociation of the vapour of (TROWBRIDGE), A., ii, 589.
liquid, molecular weight of (VAUBEL), A., ii, 388.
volume and density changes in, due to the absorption of gases (WENZEL), A., ii, 125.
decomposition of the vapour of, by the electric spark (CHAPMAN and LIDBURY), T., 1301; P., **1902**, 183.
vapour pressure in the system, acetone, phenol, and (SCHREINEMAKERS), A., ii, 243, 380, 599.
equilibrium between sodium carbonate, ethyl alcohol, and (KETNER), A., ii, 308.
action of, on lead (RŮŽIČKA), A., ii, 77.
distilled, action of, on lead (CLOWES), P., **1902**, 46.
Water from an exhumed coffin, composition of (SCHMELCK), A., ii, 279.
NATURAL WATERS:—
significance of phosphates in (WOODMAN), A., ii, 702.
estimation of chlorine in (WINKLER), A., ii, 46.
estimation of small amounts of hydrogen sulphide in (WINKLER), A., ii, 223.
estimation of the reducing power of (WINKLER), A., ii, 701.
Blood or **red rain** (PASSERINI), A., ii, 148; (CASALI), A., ii, 424.
Meteoric waters, ammonia in (CASALI), A., ii, 423.
Drainage water. See Agricultural Chemistry.
Lake water of the salt-lakes in the Crimea (KURNAKOFF), A., ii, 513.
Rain water. See Agricultural Chemistry.
River waters, behaviour of magnesium chloride in (ERDMANN), A., ii, 454.
analysis of, by the aëration method (ADENEY), A., ii, 221.
Spring and **mineral water** from the Jolanda Spring, near Staro (Italy) (SPICA and SCHIAVON), A., ii, 271.
NATURAL WATERS:—
Spring and **mineral water** of Poleo, near Schio (Italy) (SPICA and SCHIAVON), A., ii, 270.
sulphurous, of Vernet-les-Bains (FERRER), A., ii, 32.
estimation of boric acid in (MURARO), A., ii, 355.
Sea water and sewage, nature and speed of the chemical changes which occur in mixtures of (LETTS, BLAKE, CALDWELL, and HAWTHORNE), A., ii, 221.
of the Kara-bugas Gulf (KURNAKOFF), A., ii, 511.
Potable waters, contaminated, fatty acids in (CAUSSE), A., ii, 360.
Well waters, alkaline, from the lower green sand (FISHER), A., ii, 570.
Indian saline (LEATHER), T., 887; P., **1902**, 127.
Water analysis:—
new apparatus for (THOMAS and HALL), A., ii, 534.
indirect estimation of alkalis in (FISHER), A., ii, 474.
estimation of ammonia in (THOMAS and HALL; EMMERLING), A., ii, 535.
estimation of albuminoid and proteid ammonia in (WINKLER), A., ii, 630.
estimation of calcium and magnesium in (GRITTNER), A., ii, 696.
estimation of hardness in (APPELIUS), A., ii, 232.
estimation of nitric acid in (WOY), A., ii, 694.
estimation of nitric acid in, colorimetrically (NOLL), A., ii, 173.
estimation of nitric acid in, by the indigo-carmin method (TROTMAN and PETERS), A., ii, 535.
estimation of nitric acid in chlorinated (MARCILLE), A., ii, 173.
estimation of organic nitrogen in (CAUSSE), A., ii, 584.
estimation of organic matter in (DE RIDDER), A., ii, 178.
estimation, colorimetrically, of oxygen dissolved in, and apparatus for (RAMSAY and HOMFRAY), A., ii, 171.
estimation of sulphates in (JACKSON), A., ii, 172.
See also Agricultural Chemistry.
Wavellite from Manziana (Province of Rome) (ZAMBONINI), A., ii, 269.
Wax, amount of, in tobacco leaves at various periods of their growth (KISSLING), A., ii, 625.
of Algæ, and its relation to petroleum (KRAEMER and SPILKER), A., i, 333.
Montan (v. BOYEN), A., i, 72.
See also Wool wax.

Waxes, analysis of (JEAN), A., ii, 185.
Weed. See Agricultural Chemistry.
Weight, molecular, determination of, by the boiling point method (BECKMANN), A., ii, 303.
determination of, by a simple form of Landsberger's boiling point apparatus (LUDLAM), T., 1193 ; P., **1902**, 180.
new method for the determination of, in dilute solution (GUGLIELMO), A., ii, 124.
nitriles as solvents in determinations of (KAHLENBERG), A., ii, 310.
of carbon compounds in concentrated solutions with carbon compounds as solvents (SPEYERS), A., ii, 388.
and critical constants of some organic compounds (GUYE and MALLET), A., ii, 195, 243.
of hydrocarbons (GUYE and MALLET), A., ii, 195.
of liquids (KISTIAKOWSKY), A., ii, 307.
of salts in acetone (JONES), A., ii, 196.
of volatile substances, determination of, by the boiling point method (ODDO), A., ii, 6.
of iodine, determination of, by the boiling point method (ODDO), A., ii, 6.
of phosphoryl chloride (ODDO), A., ii, 6 ; (CIAMICIAN), A., ii, 123.
of sodium thiosulphate (FAKTOR), A., ii, 256.
of sulphur (PEKÁR), A., ii, 245.
of nitrosoaryls (BAMBERGER and RISING), A., i, 88.
Well waters. See under Water.
Wheat. See Agricultural Chemistry.
Willow barks, variation in the occurrence of salicin and salinigrin in different (JOWETT and POTTER), A., ii, 686.
Wines, natural, occurrence of salicylic acid in (WINDISCH), A., ii, 707.
phosphoric acid in (PATUREL), A., ii, 284.
chemical analysis of (BERNARD), A., ii, 433.
rôle of phosphoric acid in the analysis of (WOY), A., ii, 105.
detection and estimation of salicylic acid in (PELLET), A., ii, 56.
estimation of volatile acids in (SELLIER; MÖSLINGER), A., ii, 180.
sources of error in the estimation of the volatile acidity of (CURTEL), A., ii, 55 ; (ROCQUES and SELLIER), A., ii, 111 ; (DUGAST), A., ii, 235.
estimation of dry extract in (ACKERMANN), A., ii, 362.
Wines, estimation of fluorine in (WINDISCH), A., ii, 104.
estimation of lactic acid in (MÖSLINGER), A., ii, 180.
estimation of mannitol in (SCHIDROWITZ), A., ii, 291.
estimation of tartaric acid in (MAGNIER DE LA SOURCE), A., ii, 586.
Wood-fibre, colour test for (KAISER), A., ii, 434.
detection of, colorimetrically (HERTKORN), A. ii, 632.
Wool mordants (EBERLE and ULFFERS), A., i, 636.
Wool wax (JEAN), A., ii, 185.
Workshops, air of (HALDANE), A., ii, 671.

X.

X-rays. See Röntgen rays under Photochemistry.
Xanthamides of the terpene series (TSCHUGAEFF), A., i, 630.
Xanthene, bromo- and chloro- (FOSSE), A., i, 171.
Xanthhydrol and its salts and thio-derivative (WERNER), A., i, 50 ; (HEWITT), A., i, 112.
Xanthic acid, cuprous salt, formation of (BIILMANN), A., i, 583.
Xanthides, imino- (TSCHUGAEFF), A., i, 604.
Xanthine, derivatives of, estimation of, in urine (NIEMILOWICZ), A., ii, 542.
homologues of (BOEHRINGER & SÖHNE), A., i, 125, 504.
Xanthine, thio- (BOEHRINGER & SÖHNE), A., i, 505.
formation of, from isouric acid (FISCHER and TÜLLNER), A., ii, 664.
Xanthine-4:5-dicarboxylic acid, 2:7-*di*nitro- (BORSCHE), A., i, 836.
Xanthone series, syntheses in the (STROHBACH), A., i, 172.
Xanthouric compounds, error in the estimation of, in urine, caused by foods and medicaments (ANDRÉ), A., ii, 542.
Xenon, atomic weight and classification of (WILDE), A., ii, 393.
Xylan and araban, simultaneous occurrence of, in plants (BROWNE and TOLLENS), A., ii, 420.
preparation of (SALKOWSKI), A., i, 206.
behaviour of, in the organism (SLOWTZOFF), A., ii, 154.

(o-*Xylene*, *Me* : *Me* = 1:2 ; m-*xylene*, *Me* : *Me* = 1:3 ; p-*xylene*, *Me* : *Me* = 1:4.)

o-Xylene, 3:5-*di*chloro- (CROSSLEY and LE SUEUR), P., **1902**, 238.
preparation of (CROSSLEY and LE SUEUR), T., 1534 ; P., **1902**, 190.
densities, magnetic rotation and refractive values of (PERKIN), T., 1535.

m-**Xylene** thiocyanate (WHEELER and MERRIAM), A., i, 583.

m-**Xylene**, 2:4- and 4:6-*di*amino-, acyl derivatives of (MORGAN), T., 93 ; P., **1901**, 237.
2:4:6-*tri*nitro-, compound of, with nitrosodimethylaniline (SACHS), A., i, 119.

Xylenes, *o*-, *m*- and *p*-, influence of, on the rotation of ethyl tartrate (PATTERSON), T., 1097 ; P., **1902**, 133.

Xylenes, amino- and nitro-derivatives of, and the acetyl derivatives of the amino-compounds (NÖLTING and THESMAR), A., i, 313.

Xyleneazobenzenes, 3:5-*di*amino-compounds of (NÖLTING and THESMAR), A., i, 314.

Xylenedicarboxylic acid (m. p. 123°) (v. KORCZYNSKI), A., i, 274.

Xylenol, bromo-derivatives of (CROSSLEY and LE SUEUR), P., **1902**, 239.

s-**Xylenol**, *tri*nitro- (BLANKSMA), A., i, 286.

p-**Xylenol**, *s*-*penta*bromo- (AUWERS and ANSELMINO), A., i, 215.

p-**Xylenol bromohydrin**, *tri*bromo-, and its compounds with aniline and *o*-toluidine (ANSELMINO), A., i, 216.

Xylenol. See also Hydroxy-xylene.

m-**Xylidinomethyleneacetylacetone** (DAINS), A., i, 602.

m-**Xylidinomethylenebenzyl** cyanide (DAINS), A., i, 603.

m-**Xylidinomethylenemalonic acid**, ethyl ester, *m*-xylidide of (DAINS), A., i, 603.

i-**Xyloketosephenylmethylosazone** (NEUBERG), A., i, 660.

l-**Xylonic acid** and its alkaloidal salts and phenylhydrazide (NEUBERG), A., i, 424 ; ii, 417.

Xylophenanthrazines (NÖLTING and THESMAR), A., i, 313.

Xyloquinhydrone, *di*bromo- (AUWERS and SIGEL), A., i, 216 ; (TEICHNER), A., i, 629.

m-**Xyloquinol**, *penta*bromo-, and its acetate (ZINCKE and TRIPP), A., i, 286.

p-**Xyloquinol**, *di*bromo-, and its mono- and di- acetyl and acetyl-benzoyl derivatives, and its isobutyrate and its acetyl derivative, and the methylene derivative of the mono-acetyl compound (AUWERS and SIGEL), A., i, 216.

Xyloquinone*di***chlorodiimides** (NÖLTING and THESMAR), A., i, 313.

l-**Xylose** from pancreas proteids (NEUBERG), A., ii, 417.

m-**Xylylalkylsulphones** (TRÖGER and BUDDE), A., i, 776.

m-**Xylylarsenic** compounds (MICHAELIS and SEEMAN), A., i, 415.

p-**Xylylarsenic** compounds (MICHAELIS and PASEL), A., i, 416.

p-**Xylylcyanamide** (WHEELER and JOHNSON), A., i, 760.

Xylylene disulphides, *m*- and *p*- (KÖTZ and SEVIN), A., i, 172.

o-**Xylylene** *di*thiocarbonate phenylhydrazone (BUSCH and LINGENBRINK), A., i, 573.

m-**Xylylene-4:6-diamine**, methylation of (MORGAN), T., 654 ; P., **1902**, 87.

o-**Xylylenedibenzyldisulphone** (AUTENRIETH and HENNINGS), A., i, 389.

Xylylenemercaptals, *o*-, *m*-, and *p*- (KÖTZ and SEVIN), A., i, 172.

cyclo-o-**Xylylene-1:3-***di***thio-disulphone-2-methylene**, **-2-methylmethylene-** and **-2-phenyl-2-methylmethylene** (AUTENRIETH and HENNINGS), A., i, 389.

Xylylenethiols and its compounds (KÖTZ and SEVIN), A., i, 172.

m-**Xylyl pentadecyl ketone** (KLAGES), A., i, 613.

p-**Xylylthiocarbimide** (STRZELECKA), A., i, 470.

Xylylsulphoneacetic acids, *m*- and *p*- (TRÖGER and BUDDE), A., i, 776.

Xylylsulphone-ethyl alcohols, *m*- and *p*-, and ether of the meta-compound (TRÖGER and BUDDE), A., i, 775.

Xylylthiohydantoic acids, *α-o-* and *-p-* (WHEELER and JOHNSON), A., i, 760.

Xylyl-ψ-thiohydantoins, *α-o-* and *-p-*, labile and stable (WHEELER and JOHNSON), A., i, 760.

Y.

Yeast, permanent, preparation of, with acetone (ALBERT, BUCHNER, and RAPP), A., ii, 521.
top, action of, on gentiobiose (BOURQUELOT and HÉRISSEY), A., i, 744.
glycogen from (HARDEN and YOUNG), T., 1224 ; P., **1902**, 182.
invertase from (OSHIMA ; BOKORNY), A., i, 848.

Yeast, proteids from (SCHRÖDER), A., i, 730.
trypsin from (KUTSCHER), A., i, 580; (SALKOWSKI), A., ii, 165.
formation of zymase in (BUCHNER and SPITTA), A., i, 580.
Yeast cell, killed, chemical processes in the (R. and W. ALBERT), A., ii, 98.
Yeast-gum (OSHIMA), A., i, 848.
Yeasts, action of tannins and colouring matters on the activity of (ROSENSTIEHL), A., ii, 219.
Yew. See *Taxus baccata* under Agricultural Chemistry.
Ylang-ylang, oil of (DARZENS), A., i, 301.
Yohimbine (ARNOLD and BEHRENS), A., i, 233.
Ytterbium and its atomic weight and salts (CLEVE), A., ii, 659.
Ytterbium chloride, anhydrous (MATIGNON), A., ii, 505.
Yttrialite, composition of (HILLEBRAND), A., ii, 270.
Yttrium chloride, anhydrous (MATIGNON), A., ii, 505.
Yucamyrins and **Yuceleresen** (TSCHIRCH and CREMER), A., i, 813.

Z.

Zein as food (SZUMOWSKI), A., ii 674.
Zeolites in the granulites of Cala Francese (Island of Maddalena, Sardinia) (RIMATORI), A., ii, 668.
See also Mooraboolite.
Zinc, preparation of arsenic-free (HEHNER), A., ii, 501.
boiling point of (BERTHELOT), A., ii, 378.
action of, on a mixture of ethyl acetoacetate and methyl or ethyl iodide (REFORMATSKY and LUKASCHEWITSCH), A., i, 10.
condensations with (TÉTRY), A., i, 584; (ZELINSKY and GUTT), A., i, 585.
Zinc alloys with aluminium, thermal study of (LUGININ and SCHÜKAREFF), A., ii, 259.
with strontium (GAUTIER), A., ii, 138.
Zinc salts, action of ammonia and potassium hydroxide on solutions of (KURILOFF), A., ii, 139.
Zinc chloride, compound of, with iodine trichloride (WEINLAND and SCHLEGELMILCH), A., ii, 315.
hydroxide, solubility of (HERZ), A., ii, 77.
solubility of, in ammonia and ammonium bases (HERZ), A., ii, 398.
nitrate, spectrum of (HARTLEY), T., 569; P., **1902**, 68.
potassium nitrite (ROSENHEIM and OPPENHEIM), A., ii, 21.
Zinc oxide, polymerisation and heat of formation of (DE FORCRAND), A., ii, 489.
hydration of (DE FORCRAND), A., ii, 549.
*per*oxides (DE FORCRAND), A., ii, 322.
constitution and properties of (DE FORCRAND), A., ii, 606.
ammonium phosphate, estimation of, volumetrically (DAKIN), A., ii, 628.
sulphate, inversion of (BARNES and COOKE), A., ii, 486.
sulphate, mixed crystals of, with copper sulphate (FOOTE), A., ii, 19.
compounds of, with cupric oxide (MAILHE), A., ii, 140.
tellurate (GUTBIER), A., ii, 558.
Zinc organic compounds:—
ethoxide and *iso*butyloxide (TOLKATSCHEFF), A., i, 9.
ethyl, action of, on nitro- and nitroso-compounds (LACHMAN), A., i, 198.
methyl, action of, on alcohols (TOLKATSCHEFF), A., i, 9.
Zinc, estimation and separation of:—
estimation of, gravimetrically and volumetrically (COHN), A., ii, 50.
estimation of, volumetrically (PROTHIÈRE), A., ii, 475.
estimation of, volumetrically, influence of the amount of iron on the (COPPALLE), A., ii, 357.
quantitative separation of, from cobalt (ROSENHEIM and HULDSCHINSKY), A., ii, 697.
separation of, from nickel (ROSENHEIM and HULDSCHINSKY), A., ii, 108.
Zincite from Poland (ANTIPOFF), A., ii, 510.
Zingiberene and its nitrosate, nitrosite, and nitroso-chloride (SCHREINER and KREMERS), A., i, 108.
Zirconium boride (TUCKER and MOODY), T., 15; P., **1901**, 129.
hydroxide, action of hydrogen peroxide on (PISSARJEWSKY), A., ii, 565.
Zirconium, quantitative separation of, from iron (GUTBIER and HÜLLER), A., ii, 701.
Zygadenus venenosus (HUNT), A., ii, 278.
Zymase of *Eurotyopsis Gayoni* (MAZÉ), A., ii, 622.
formation of, in yeast (BUCHNER and SPITTA), A., i, 580.
Zymogen, elaboration of, in the gastric glands of the *Viper berus* (LAUNOY), A., ii, 613.
pancreatic (VERNON), A., ii, 336.
Zymogens, pancreatic conversion of, into enzymes (VERNON), A., ii, 152.
Zymolysin (HAMBURGER and HEKMA), A., ii, 515.

ERRATA.

Collective Index, 1883—1892.

for "**Tolylacetylene**" *read* "**Tolylethylene.**"

Vol. LXVIII (Abstr., 1895).

Part II.

Page	Line	
504	15*	*for* "**Sylvanite**" *read* "**Sylvite.**"

Vol. LXXVIII (Abstr., 1900).

Part II.

411	15*	,, "$(MgOH)_2(K,Na,Li)Si_3O_8+H_2O$" *read* "$(MgOH)_2(K,Na,Li)_2Si_3O_8+H_2O$."

Vol. LXXX (Abstr., 1901).

Part I.

119	4*	,, "*ββγ-trimethylpentane-αγ-olidoic acid*" read "*γγδ-trimethylpentane-βε-olidoic acid.*"
248	22*	,, "Willy Markwald" *read* "Wilhelm Marckwald."
648	5	,, "[OH=4:6:2′:4′]," *read* "$[(OH)_4=5:7:2:4]$."
,,	7	,, "[OH=4:2′:4′," *read* "$[(OH)_3=5:2′:4′]$."

Part II.

229	21*		
766	3* top	col. i ,, ii	*for* "**Willy Markwald**" *read* "**Wilhelm Marckwald.**"
451	5*		*for* "5·653°" *read* "5·653."
451	4*		,, "4·41°" *read* "4·41."

Vol. LXXXII (Abstr., 1902).

Part I.

6	bottom	,, "*γ-Methyl-α-isobutylvaleric acid*" read "*βγ-Dimethyl-α-isobutylvaleric acid.*"
52	4* & 7*	,, "Diclytra" *read* "Dielytra."
51	11* 10*	,, "this vol., i, 604, 643" *read* "Abstr., 1901, i, 604, 643."
86	20	,, "1901, i, 795," *read* "1901, ii, 705."
283	10*	,, "*Tetrabromohydroxytoluketone*" read "*Tetrachlorobromohydroxytoluketone.*"
299	20	,, "*Dibenzoyl-β-alizarin*" read "*Dibenzoyl-β-aminoalizarin.*"
491	10*	,, "1-*Pyrrylurethane*" read "2-*Pyrrylurethane.*"
492	1 5	,, "*Indole*-1-*carboxylic*" read "*Indole*-2-*carboxylic.*"
492	8	,, "1-*Indole-urethane*" *read* "2-*Indoleurethane.*"
616	22	,, "*αβ-dibromo*-p-*ethyl*-3:5-*ψ-phenol*" read "α-3:5-*tribromo*-ψ-p-*ethylphenol.*"

* From bottom.

ERRATA (*continued*).

Page	Line		
616	24	*for*	"OH·C_6H_2Br·CHMeBr" *read* "OH·$C_6H_2Br_2$·CHMeBr."
679	23	,,	"β-p-*glutaranil*" read "β-p-*tolylglutaranil*."
727	16*	,,	"*Davison*" read "Davidson."
741	13, 14	,,	"βγγ-Dimethyl-β-hydroxypentanedioic acid" read "β-Hydroxy-βγγ-trimethylpentanedioic acid."
798	10	,,	"*Benzylidene Camphor*" read "*Benzylidenecamphor*."
834	12		
,,	19*	,,	"3-*Hydroxy*-4-*methyluracil*" read "5-*Hydroxy*-4-*methyluracil*."
,,	11*		
,,	22*	,,	"3-*Acetoxy*-4-*methyluracil*" read "5-*Acetoxy*-4-*methyluracil*."
,,	13*		"3 : 3 : 4-*trihydroxy*-4-*methyldihydrouracil*" read "4 : 5 : 5-*trihydroxy*-4-*methylhydrouracil*."
,,	12*	,,	

PART II.

408	17*	,,	"Apophylite" *read* "Apophyllite."
	10*		
	16*	,,	"D'ACHIARDI" *read* "D'ACHIARDI."
650	17*	,,	"depressed from 119·25° to 42·5°" *read* "depressed by an amount corresponding with the atomic depression 42·5°."
,,	14*	,,	"sealed" *read* "open."
,,	7* to 4*	*delete*	"The substances, with the exception of carbon dioxide, which have the latter action will also reduce the amount of any amorphous sulphur formed.

* From bottom.